LSWR

Stock Book

Peter Cooper

The Preserved Locomotives, Carriages and Wagons
of the
London and South Western Railway

LSWR
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Peter Cooper

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The beginning of an LSWR steam preservation exercise – the payment cheque is handed over, and 'B4' class No. 30096 *Corrall Queen* becomes the property of the Bulleid Society, 16th December 1972. *J.R. Fairman*

Acknowledgements

A wide range of publications have been referred to in the course of compiling this book, and thanks are also due to a number of individuals and societies for their assistance in providing information and photographs.

Records at the Public Records Office, Kew, were referred to, and the library staff of the National Railway Museum, York, were most helpful. Periodical publications which were most valuable were the Railway Observer, Locomotive Magazine, Railway World and Model Railway Constructor. The most valuable books were Locomotives of the LSWR (D.L. Bradley – RCTS) and Southern Wagons Vol. 1 (M.S. King and others – OPC); also Maunsell's SR Steam Passenger Stock (D. Gould – Oakwood).

For information on particular items, the stock books of preserved railways were often very helpful, and I would particularly like to mention those of the Bluebell, East Somerset, Kent & East Sussex, North York Moors, Swanage and West Somerset Railways. Other help and information was received from members of the Bulleid Society, Dart Valley Railway Association, Somerset & Dorset Railway Museum Trust, Southern Steam Trust, Southern Electric Group, Bressingham Steam Museum Trust, Bitton Signalbox Group, Tenterden Railway Company and Mid-Hants Railway Preservation Society. I must particularly thank Messrs. Klaus Marx (Bluebell RPS) and Nick Felton (Wight Locomotive Society) for allowing me to scan full sets of the magazines of their respective societies, and Messrs. Bernard Holden (Bluebell Railway) and Barry Buckfield (East Somerset Railway) for issuing me permits to photograph rolling stock on their respective lines. I am also grateful to Messrs. S.C. Townroe and A.B. MacLeod for telling me how the 'T3' came to be preserved, and to Mr. Roger Silsbury for some valuable wagon data.

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The final thanks, as always in a publication like this, must go to the photographers, whose work forms a substantial proportion of this book, and is credited individually. Their photographs speak for themselves; I have tried to make the text present as faithful a record.

Introduction – the LSWR

The London and South Western Railway (LSWR) originated as the London and Southampton Railway, which obtained its initial Act of Parliament in 1834. The railway opened its first section, from London (Nine Elms) to Woking in 1838, and completed its main line to Southampton in 1840. Branching out to Gosport, in 1841, to serve Portsmouth, the railway changed its name to the London and South Western Railway in deference to the citizens of Portsmouth. The line was later extended further into London, and the terminus at Waterloo was opened in 1848.

Over the following decades the LSWR expanded further. Its West of England main line reached Salisbury in 1857, and Exeter in 1860. Later it extended further west into Devon and part of Cornwall, eventually reaching termini at Plymouth, Padstow, Bude and Ilfracombe. Portsmouth was reached by a direct route in 1859, after altercations with the London, Brighton and South Coast Railway, and the railway reached Bournemouth and Dorchester first by a very roundabout route (known as 'Castleman's Corkscrew') and later by a direct route. An extensive London suburban network was also built up, besides a number of rural secondary routes and branch lines.

The area served by the LSWR held no known major mineral deposits, so goods traffic was never a major part of the company's business. But the railway purchased Southampton Docks in 1892, and was the major force behind their development for the next 30 years; much of the Company's goods traffic was to and from these docks. The LSWR was above all a passenger carrying railway. It served an extensive array of holiday resorts, and the summer Saturday trains serving these resorts were a major operation; multiple portions of West Country and Bournemouth expresses were regularly required.

The LSWR became one of the three major constituents of the Southern Railway in 1923, at the Grouping, and the LSWR's Chairman and General Manager occupied the same positions on the Southern. The newly formed railway was to be much influenced by the LSWR in such matters as locomotive and carriage design, and suburban electrification.

An early instance of preservation of LSWR items was the restoration of 'T3' class locomotive No. 563 and tri-composite brake carriage No. 6474, as part of the Waterloo Station Centenary celebrations. Locomotive and carriage are seen in Waterloo station on 14th June 1948. *S.W. Baker*

The LSWR preserved

Much of the basic physical structure of the London and South Western Railway still exists today; two of its three main lines, from Waterloo to Bournemouth and to Portsmouth, still function as electrified main lines and the third, to the West of England, still operates, though at a rather lower status. Its London suburban network is virtually intact, and carries a very intensive service of electric trains. Many branch lines and rural secondary lines are gone, however, but that is true of all the major railways in the land. A number of LSWR-built stations still exist and function, though again affected by rural depredations.

By contrast, rolling stock is much more transitory. For many years, as on most railways, the LSWR's locomotives, carriages and wagons ran their working lives of 20, 30, 40 or more years, and were then withdrawn, replaced and scrapped. Before about 1960 railway preservation had been a rather sporadic affair, from which the LSWR had benefitted very little. Around 1960, as the days of steam were seen to be numbered, things were put on a more definite basis with the publication of the official list of locomotives to be preserved as part of the National Collection of historic railway relics. Then, as at most times, the emphasis was on locomotives, while carriages and wagons remained comparatively neglected. Also around 1960 the first successful instances of private preservation of locomotives; large scale preservation of carriages and wagons began a little later.

A major aim of preservation should always be educational, to offer as complete a survey as possible of the rolling stock used by a railway over its whole range of activities, and over the entire timespan of its existence. In practice it is very much governed by what is available when people are moved to take preserving action. With the LSWR this has had mixed results, when we consider what has and has not been preserved. Among locomotives, the LSWR is probably represented by a more comprehensive range than any other pre-grouping railway; an earlier goods locomotive would have been a useful addition, and maybe an Adams 'Jubilee', and it is sad that the 'F9' class 4-2-4 tank engine-cum-saloon, 'Mr Drummond's Car' or 'The Bug', retained for preservation until the Second World War, was not preserved. With the carriages, the absence of anything to represent the period before the 1890s leaves a considerable imbalance, but most of such stock had gone by the time of the grouping in 1923, or soon afterwards, though a few remarkable relics do seem to have existed for some years longer in the departmental list. Likewise wagons, where no early examples remain.

Preserved items are, strictly speaking, those which have been purchased or put aside, with a statement made that they are to be retained for posterity. This will normally imply restoration to exhibition state or to running order. In the case of the LSWR, any item still existing is automatically of historical value (it must be at least 60 years old) and thus a candidate for preservation. But if it has not been formally preserved then it could, in theory, vanish at any time.

This book aims to provide a record of the preserved items of LSWR rolling stock, and to make people aware of what exists. These items are widely dispersed, as no LSWR museum exists, nor is there any immediate likelihood of one. Most attention is given to items that were built by or for, and ran on, the LSWR, and which are now preserved. But some space must also be given to LSWR stock still existing but not strictly preserved, and to preserved items with strong LSWR connections.

The survey falls naturally into three sections, to cover locomotives, carriages and wagons. Within each section the nature of the items concerned, and the extent of available material about them, has dictated how the items are described.

Locomotives were always well recorded, so a fairly full history of each preserved item can be given. These accounts aim to indicate the circumstances in which each preserved type was built, besides recording the stories of the actual survivors. The illustrations accompanying these accounts usually start with an official photograph, to show the original condition of the type. This is followed by a sequence of photographs of the actual preserved engines, to chart the various stages of their careers. In this the aim has been to strike a balance between the historical and the pictorial in the choice of photographs. Histories of the boilers and tenders preserved with these engines are also included.

Much less was recorded about carriages, so the accounts of those preserved are necessarily briefer. Again, these accounts try to place the building of each type of carriage in context, and to give an outline of the history of each preserved item. The LSWR took few official photographs of carriages, though where these are available, and relevant, they are included. During their working lives carriages as such were never photographed as much as locomotives and the aim here has been to show at least an example of the type, if not the actual preserved vehicle, in normal service, and to show each item as preserved. But owing to the relative scarcity of photographs of carriages, this aim has not always been achieved. Fortunately the limited supply of appropriate photographs is compensated for by use of drawings of most types of preserved coach.

With wagons we move into less certain territory. Identification of some items is doubtful, and some distinctly borderline cases exist – vehicles with LSWR axleboxes, which are believed not to be LSWR wagons, and unacknowledged LSWR wagons which may be tucked away on military railways and in the collections of lesser-known museums. Not much is recorded about individual vehicles, and so the accounts of them are mostly very basic. The photographs in this section do no more than attempt to show the preserved vehicles as they are now.

The dimensions quoted for the locomotives are, where possible, taken from the BR Engine Record Cards of the actual preserved items. The exceptions are the 'T3' class No. 563, which did not remain in service long enough to have such a card, and the 'O2' class No. W24, whose card has not been located – the figures quoted were taken from No. W18's card. Carriage dimensions were taken from the LSWR carriage registers. Each preserved item is normally referred to by the number it carried at the date in question. Where a general reference is made, with no date implied, the vehicle's first LSWR number is quoted.

The individual locomotives, carriages and wagons described in this book were not, in LSWR days, items of any special note requiring particular attention. They now qualify for this degree of attention for one reason only – they still exist. If this book helps to encourage people to restore what is preserved, and to preserve whatever else remains, then it will have made a useful contribution.

Preserved LSWR locomotives

Twelve steam locomotives of LSWR origin survive in preservation; their building dates range from 1874 to 1920, so they present a good cross-section of LSWR locomotive history. Few other pre-grouping companies are represented by as many surviving locomotives, and where they are (as with the LBSCR) the range is not as wide nor as representative.

The surviving twelve include designs by the four major locomotive engineers of the LSWR, namely Joseph Beattie, William Adams, Dugald Drummond and Robert Urie, and they reflect the progress of LSWR locomotive design over a period of half a century. From Beattie's early use of coupled wheels with outside cylinders, they proceed through Adams' introduction of leading bogies, and his later switch to inside cylinders for some types of work, and through Drummond's use of inside cylinders for almost all types, to Urie's radical move to outside cylinders with much of 'the works' exposed.

These twelve engines comprise four tender engines and eight tank engines and include types built for express passenger work, London suburban traffic, heavy freight and shunting; oddly the twelve comprise four 'pairs' and four 'single' engines. They also include the output of outside contractors (Beyer Peacock and Neilson) and of the LSWR's works at Nine Elms and Eastleigh, and engines which, at various times, were regularly overhauled at Exeter, Southampton Docks and Ryde. To these twelve steam engines must be added the Waterloo and City Railway electric shunter No. 75S, and we must also record the ex-LBSCR 'Terrier' No. W8 *Freshwater*, which was LSWR property for ten years.

Many of these locomotives survived for so long because they performed specialist roles which no other type could take over. The Beattie well tanks on the Wenford branch and the Adams radial tanks at Lyme Regis clearly illustrate this, and so do the 'O2s' on the Isle of Wight. The Southern, concentrating before the war on electrification, had built almost no engines for secondary duties, so many outmoded locomotives were forced to remain in service, after the war, far longer than anyone had really expected. The preservation movement can indeed be grateful for this.

Four of the twelve locomotives (plus the Waterloo and City shunter) are preserved as part of the National Collection. Around 1960, when most of the choices and decisions about this collection were being made, sufficient interesting ex-LSWR locomotives existed to ensure a good level of representation. Eleven of the twelve were withdrawn by British Railways in the years 1961-64, and so survived long enough to be available in the early stages of the private preservation movement. Only two of the twelve have come to us by courtesy of Mr Woodham's renowned scrapyard at Barry.

Four of the twelve can be said to have had active lives in preservation, and two others are currently being restored for future use. There is a prospect of two more being restored, but four seem likely to remain museum pieces. As they are all quite old locomotives, and several of them rather small, they are not particularly suited to the traffic requirements of some steam railways, and this may tend to reduce their chances of being restored to working order.

One of the most consistently active and visible restored LSWR locomotives has been the Adams radial tank No. 488. Here the engine is in action, with a very mixed train, on the Bluebell Railway in December 1979. *Mike Esau*

Joseph Beattie (1804-1871)
Locomotive Superintendent 1850-71

Joseph Beattie belonged to the same generation as Brunel and Robert Stephenson, and his associations with the LSWR went back to the very beginnings of the railway. He started as a constructional engineer and was one of Joseph Locke's assistants during the building of the original London and Southampton line in the late 1830s. Later he was assistant to J.V. Gooch as LSWR locomotive superintendent, in the late 1840s, and when Gooch left the LSWR in 1850, Beattie succeeded him.

Though, like his contemporaries, Beattie at first built single-driver locomotives for most work, he was one of the first to adopt coupled wheels on express locomotives, and he came to use the 2-4-0 wheel arrangement for most types of work. He built a wide range of 2-4-0 express locomotives, with various sizes of driving wheels, and used the same wheel arrangement on goods and suburban tank engines. The layout of a Beattie locomotive was quite characteristic – an outside cylinder 2-4-0, with a great deal of overhang at the front, a low centre of gravity, and his own particular suspension arrangements for the leading carrying wheels.

Beattie was a great inventor of devices aimed at improving efficiency, which he applied liberally to many of his locomotives. These included various feed water heating arrangements, and a special form of firebox; he was also one of the first to build locomotives to burn coal rather than coke. His earlier designs had a rather rough-hewn appearance, but later, under the influence of Charles Beyer of Beyer Peacock & Co., they took on a distinct elegance of line and finish, with handsomely shaped domes and chimney caps.

Beattie died in office in 1871.

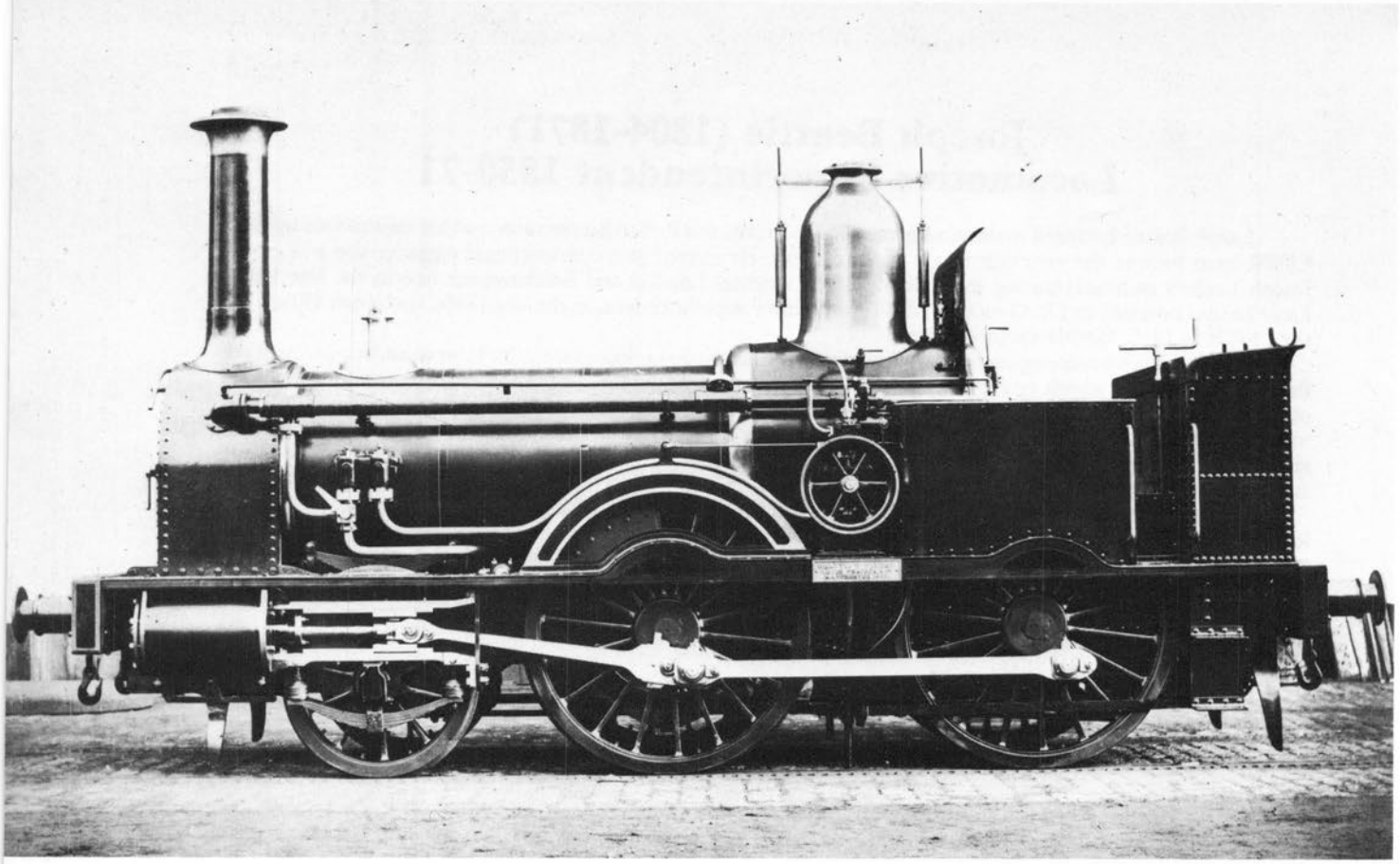
'0298' Class Nos. 298 and 314

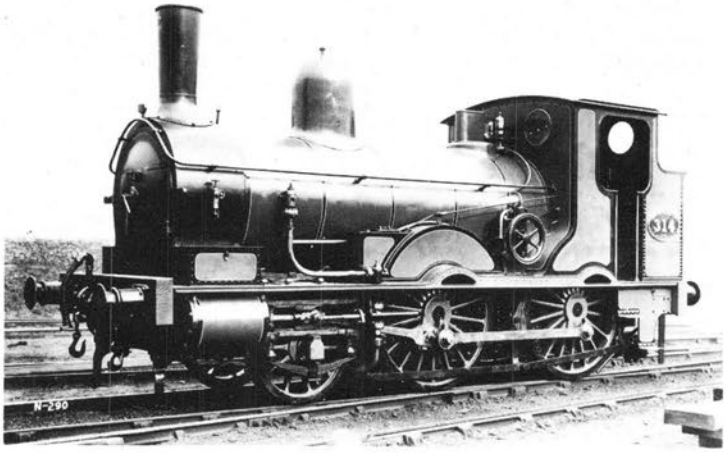
The LSWR was expanding vigourously during Joseph Beattie's term of office; new lines were still being opened, as the railway developed towards its familiar form. One aspect that was being built up was the London suburban traffic, which is still such an important part of the workings on the ex-LSWR lines. Beattie's first tank engines for London suburban work were of 2-2-2 wheel arrangement; they were well tanks, carrying their water supply between the frames. But with the expansion of the railway's business, increasing loads called for more powerful locomotives and the first 2-4-0 well tanks were developed from the earlier 2-2-2s. In his search for the right design, Beattie built the 'Minerva' (in 1856), 'Nelson' (1858) and 'Nile' (1859) classes, each of three 2-4-0 well tanks. By the early 1860s, as a result of experience of these three classes, he had a clear idea of the form his standard suburban well tank should take.

At about this time, Nine Elms Works was closed for rebuilding, so the LSWR had to look elsewhere for manufacture of new locomotives. They turned to the Manchester firm of Beyer Peacock, and formed an association which lasted for almost twenty years; even after Nine Elms resumed locomotive building in 1862, Beyer Peacock continued to supply a large proportion of the LSWR's new locomotives. The first of Beattie's standard well tanks were ordered from Beyer Peacock in February 1862 and delivered the following year; during the 1860s they continued to be delivered by Beyer Peacock in batches of six or eight, and eventually 85 were built, all but three by the Manchester firm. They were fitted with some typical Beattie gadgetry, including feed water heaters, and his patent design of firebox. These engines soon settled in to be the mainstay of the London suburban services, besides handling some provincial traffic.

Following Joseph Beattie's death in 1871, his son, W.G. Beattie, succeeded him as Locomotive Superintendent and continued, at first, to build more engines to his father's designs. So, on 21st August 1873, Beyer Peacock tendered, 'for the supply of 6 four-wheels-coupled Tank Engines of the same pattern and quality as those last built by them', with a target delivery date to Nine Elms of April and May 1874. These six engines were numbered 201, 202, 34, 298, 299 and 314, but it was not until about the start of June 1874 that Nos. 298 and 314 of this new batch arrived on the LSWR. Like all the well tanks supplied by Beyer Peacock, they would have been characterised by the tall chimney, ornate dome over the firebox, feedwater heating apparatus, and the high quality Beyer Peacock finish in chocolate livery. Though built in this same batch of six, the two surviving engines had quite different early histories. No. 298 spent all her early years in the West Country, being recorded based at Barnstaple and Exeter depots, and received all overhauls at Exeter, not visiting Nine Elms Works at all in these early years. On the other hand No. 314 was an engine of the London area, being recorded based at Nine Elms, Hampton Court and Ascot, and receiving regular overhauls at Nine Elms.

The Beattie well tanks remained in charge of the LSWR's London suburban services until the early 1880s. By this time the work had really become too much for them, and William Adams introduced his larger tank engine designs with leading bogies. As a result many of the well tanks, including No. 314, were displaced to provincial depots, and from the late 1880s both Nos. 298 and 314 were working in the West Country. Some of the well tanks were rebuilt as 2-4-0 tender engines to increase their operational range on provincial work; this rebuilding included replacing many of their intricate Beattie features, usually with Adams' design on boiler and other parts, and considerably altered the outward appearance of the engines. Six were similarly rebuilt and modernised but remained as 2-4-0 well tanks; they received Adams boilers (rather larger than their previous boilers), stovepipe chimneys and fully enclosed cabs. Nos. 298 and 314 received this treatment in 1889, and four others, including No. 329, were similarly rebuilt soon afterwards. In the cases of Nos. 298 and 314, the rebuilding included the replacement of their original splashers – open circular front splashers and square rear splashers – with uniform rounded splashers. The six rebuilt well tanks were then employed on the Exmouth branch and other



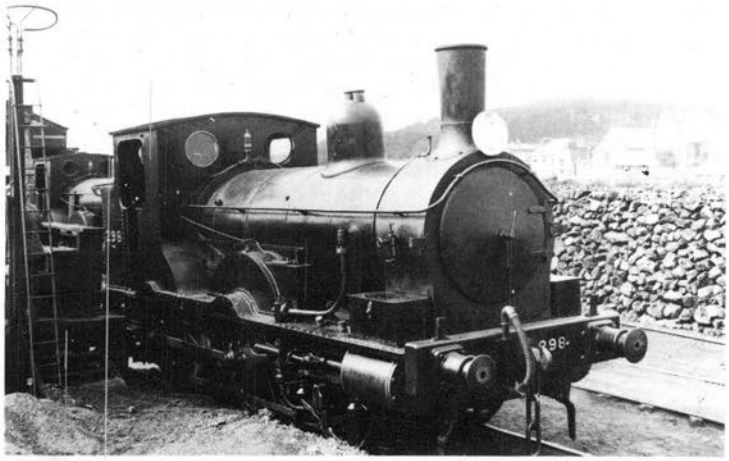


Above: The original outline of the Beattie well tanks is portrayed in this Beyer Peacock official photograph, which shows the typical layout of a Beattie locomotive. The plate reads 'BEATTIE'S PATENT – BEYER PEACOCK & CO – MANCHESTER 1863'.

Greater Manchester Museum of Science & Industry

The 1889 rebuilding quite transformed the two Beattie well tanks which now survive. Boiler, dome, chimney, cab and splashers were all greatly altered, and the essence of the final form of the engines is now evident. Both Nos. 298 and 314 retained the donkey pump on the running plate at this stage; No. 314 is at Nine Elms in 'pea green' livery.

J.B.N. Ashford/collection of the late George Kerley



In reboilering the engines in 1921-22, Urie altered their appearance much less radically than had Adams in 1889; the main visible change is in the dome, in which the safety valves are mounted, Drummond-style. No. 0298 is at Wadebridge on 30th May 1922, in the last year of the LSWR. *H.C. Casserley*

Dimensions

Wheel arrangement	2-4-0
Cylinders (2) - bore	16½"
stroke	20"
Driving wheel diameter	5' 7"
Boiler pressure	160 lb/sq.in
Tractive effort	11,052 lbs
Wheelbase	12' 6"
Overall length	26' 2"
Overall height	12' 8½"
Weight in working order	38 tons 16 cwt
Grate area	14 sq.ft
Total heating surface	847 sq.ft
Boiler tubes	179 x 1¾"
Water capacity	550 gallons
Coal capacity	1 ton

Allan link motion, slide valves, lever reverse, right hand drive

Service Histories

Type introduced - February 1863

No. 298

Built by .... Beyer Peacock Works No.... 1412
Cost..... £2575 Service date ..... June 1874
Numbers:- LSWR - 298 (6/74), 0298 (6/98)
SR - E0298 (10/25), 3298 (5/33)
BR - 30587 (7/48)
Withdrawn .. December 1962 Final mileage .. 1,289,348

No. 314

Built by .... Beyer Peacock Works No.... 1414
Cost..... £2575 Service date ..... June 1874
Numbers:- LSWR - 314 (6/74), 0314 (5/01)
SR - E0314 (6/25), 3314 (12/36)
BR - 30585 (11/48)
Withdrawn .. December 1962 Final mileage .. 1,314,838

branches in the Exeter district. But during the late 1880s and 1890s the Beattie well tanks, including their tender engine conversions, were being steadily withdrawn, as more modern locomotives became available, and the six rebuilt well tanks were dispersed to a variety of West Country branches.

The Bodmin and Wadebridge Railway was opened in 1834, and is thus one of the really historic railways. The original purpose of the line was to transport sea sand inland for farm use, but its later function was tied entirely to serving the china clay works operating along its route. The line was purchased by the LSWR in 1846, even though it was separated from the LSWR by a gap of 200 miles; but the LSWR was still building, and would get there in the end. In 1893 the LSWR received an urgent plea from the Bodmin and Wadebridge line, as their locomotive *Bodmin* was reported 'past repair'; so an unrebuilt well tank, No. 248, was sent by sea as a replacement. No. 248 ran the line until June 1895, when the LSWR finally reached the Bodmin and Wadebridge, and rebuilt well tank No. 298 arrived to take over. She was soon joined by two more of the rebuilt well tanks, Nos. 314 and 329.

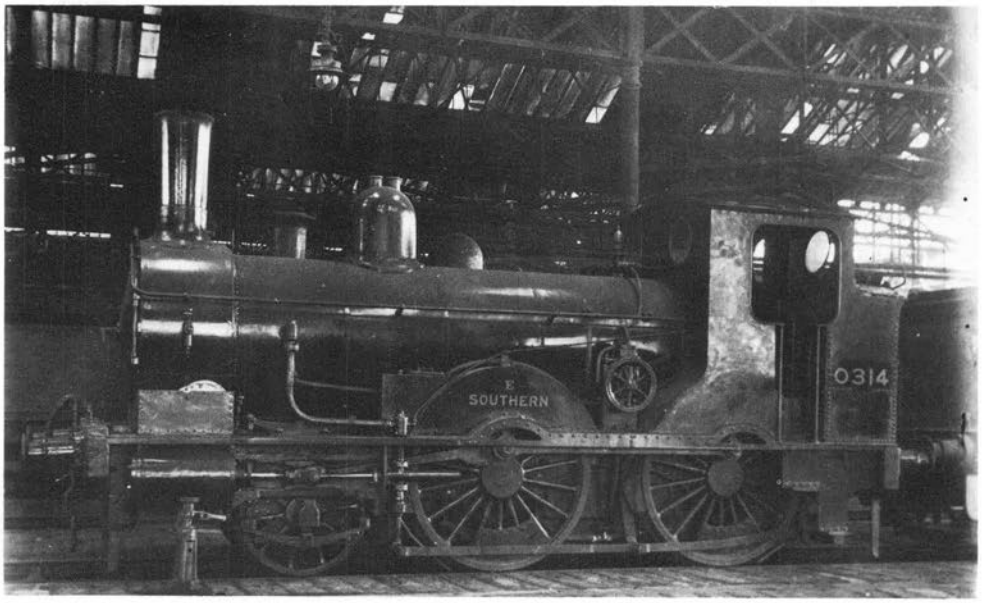
Withdrawals of the class meant that by mid 1899 these three engines, on the Bodmin and Wadebridge line, were the only Beattie well tanks left, and it seemed as though they would barely see out the old century. It only remained for suitable replacements to be found for them on the Wadebridge services, and the last of the class could be withdrawn. But it took the authorities over sixty years to find these replacements!

In 1900 an 'Ilfracombe' goods engine and an 'O2' class tank were sent for trial on the Wenford Bridge line, but they were found quite unsuitable, and it began to dawn on those concerned that the light weight and short wheelbase of the Beattie well tanks made them uniquely suited to the line. So the three engines received major overhauls in 1901-02, though their outward appearance was unaltered. They were placed on the duplicate list around 1900 as new Drummond 4-4-0s appeared, becoming Nos. 0298 etc. For another twenty years they continued to operate in their obscure byway, and from about this time, as unique survivors, they began to acquire a certain fame. But by about 1920 their boilers (of 1880s vintage) were wearing out; so new boilers were constructed at Eastleigh, with safety valves mounted, in Drummond fashion, on the dome, and were fitted to No. 0298 in December 1921, to No. 0314 in September 1921, and to No. 0329 in April 1922. Outwardly their appearance was otherwise little altered, and the Adams stovepipe chimneys were retained.

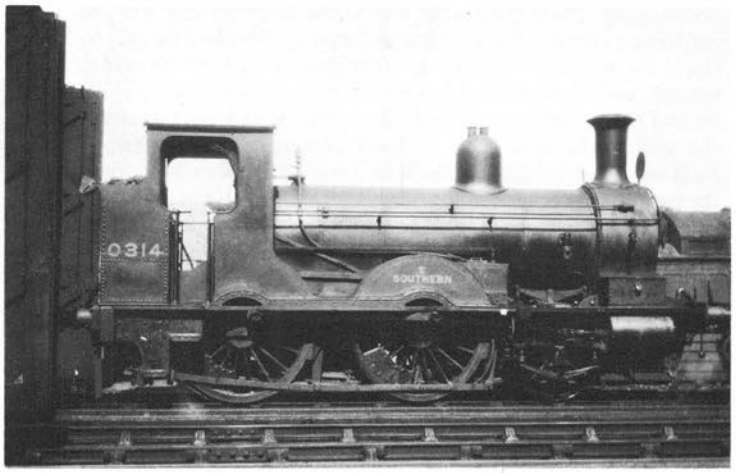
The work of the three well tanks over the years was largely unchanging. Their prime task was to take the morning train of empties up the picturesque 6½ mile branch to Wenford Bridge, to shunt the wagons in the sidings at the china clay sheds along the branch, and to return with a train of wagons full of china clay. A second engine acted as Wadebridge yard shunter, and at times the well tanks were used on local passenger trains between Padstow, Wadebridge and Bodmin. Until 1933 they also worked the freight-only branch to Ruthern Bridge. In one sense this was a quieter life than on London suburban and similar traffic; working from Wadebridge each well tank usually ran, at most, 10,000 miles per year, while the figure in the first twenty years of their lives had been around 30,000 miles.

The three Beattie well tanks became Southern Railway property in 1923 and shortly afterwards they were painted in SR lined black goods livery and received 'E' prefixes to their numbers, becoming Nos. E0298 etc. Replacements for them were still sought, and in summer 1928 the 'P' class 0-6-0 tank No. A558 (of SECR origin) was tried on their branch as a possible substitute, but it too was found unsuitable. Soon the age of the well tanks began to tell again, and in the early 1930s very heavy repairs were again necessary. No. E0314 was the first one treated; many worn parts were replaced, but the most obvious outward changes, when the engine emerged from Eastleigh Works in June 1931, were the Drummond chimney and the steel front buffer beam which replaced the previous wooden one. The other two engines received the same treatment shortly afterwards, and at the same time were renumbered, as the 'E' prefix was dropped, to become No. 3298 in May 1933 and No. 3329 in September 1935. No. E0314 similarly became No. 3314 in December 1936. Their livery remained lined black until, at overhauls around the late 1930s, this was replaced by unlined black.

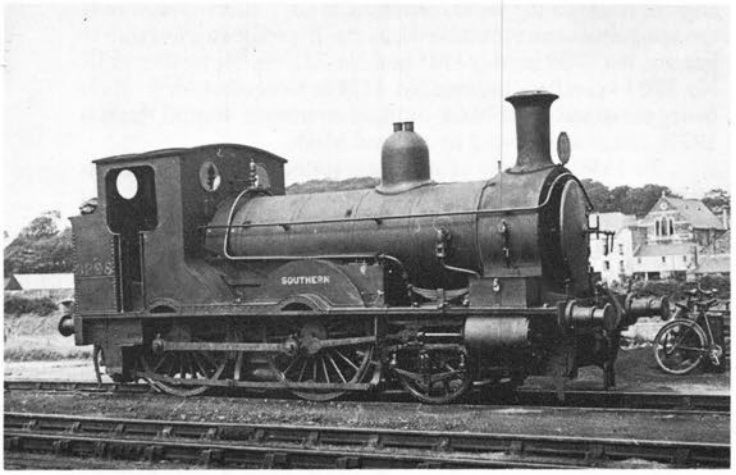
In 1948, the year of nationalisation, all three well tanks received general overhauls at Eastleigh, two of them not having visited Eastleigh since before the war. The three engines received their British Railways numbers, and BR unlined black livery on these visits, No. 3329 becoming 30586 in March 1948, No. 3298 becoming 30587 in July, and finally No. 3314 becoming 30585 in November. At this point they had simply painted on them 'BRITISH RAILWAYS', as this was before the first lion-and-wheel crest was introduced, and Nos. 30585 and 30587 carried this legend across the leading driving wheel splashers. The engines later carried the first pattern of BR crest, No. 30585 receiving one at a heavy intermediate overhaul in June 1952, and No. 30587 at a general overhaul in July 1954; they later received

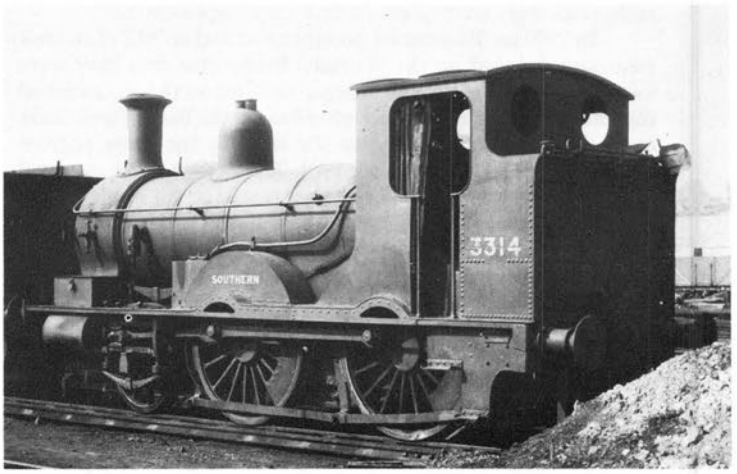


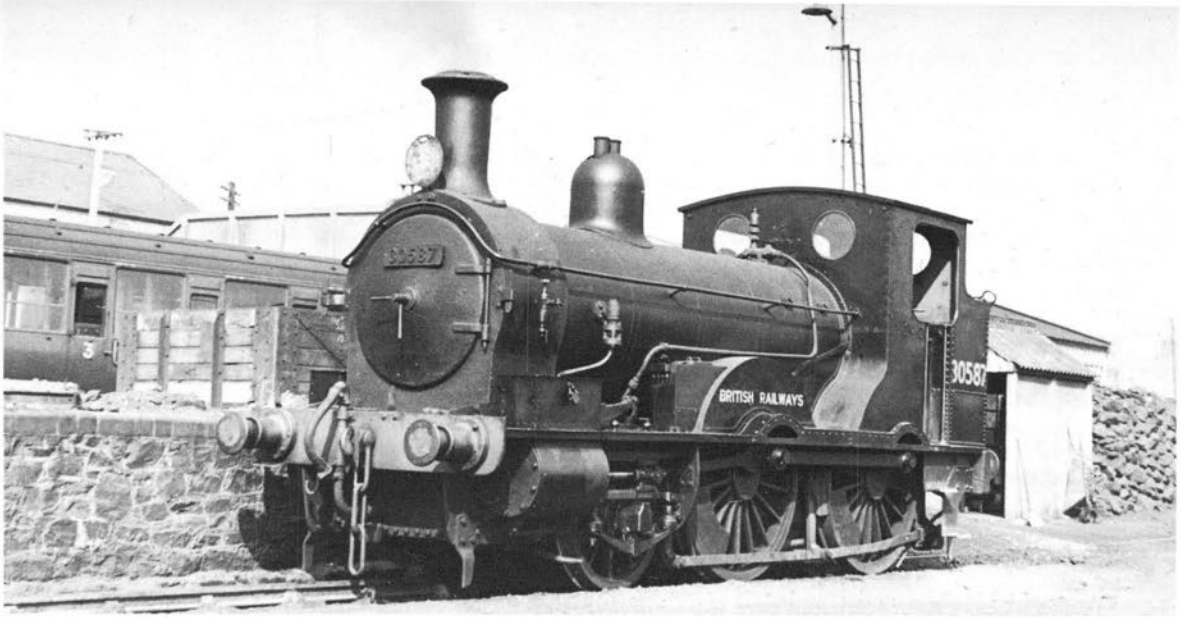
Left: The Southern painted the Beattie well tanks in lined black livery, with the usual 'E' prefixes to their numbers. No. E0314, the only one to retain the donkey pump in the 1920s, is in Exmouth Junction shed on 18th July 1925. *H.C. Casserley*



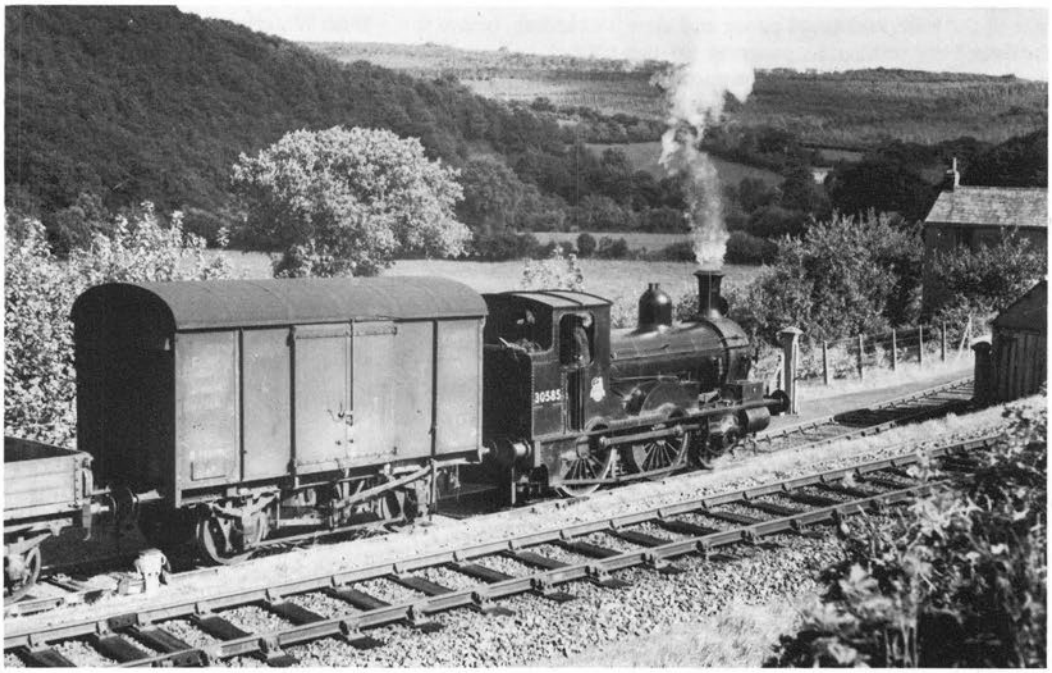
Above left: In the 1930s the engines took on their final form. No. E0314 was the first engine treated, and the only one to retain the 'E' prefix in modified form. The livery is still lined black. *Lens of Sutton. Above right:* No. 3298 acquired this number on receiving the 1930s modifications; the livery remains lined black, but there is some variety in the numbering on the side and end. *J.R. Fairman Collection. Below left:* In 1938 No. 3298 was given cabside numerals of a pattern normally only used on buffer beams, and the livery became unlined black; Wadebridge, 29th August 1945. *H.C. Casserley. Below right:* No. 3314 was the only well tank overhauled at Eastleigh in the war years, and received yet another style of cabside numerals; Exmouth Junction, 27th September 1947. *J.H. Aston.*



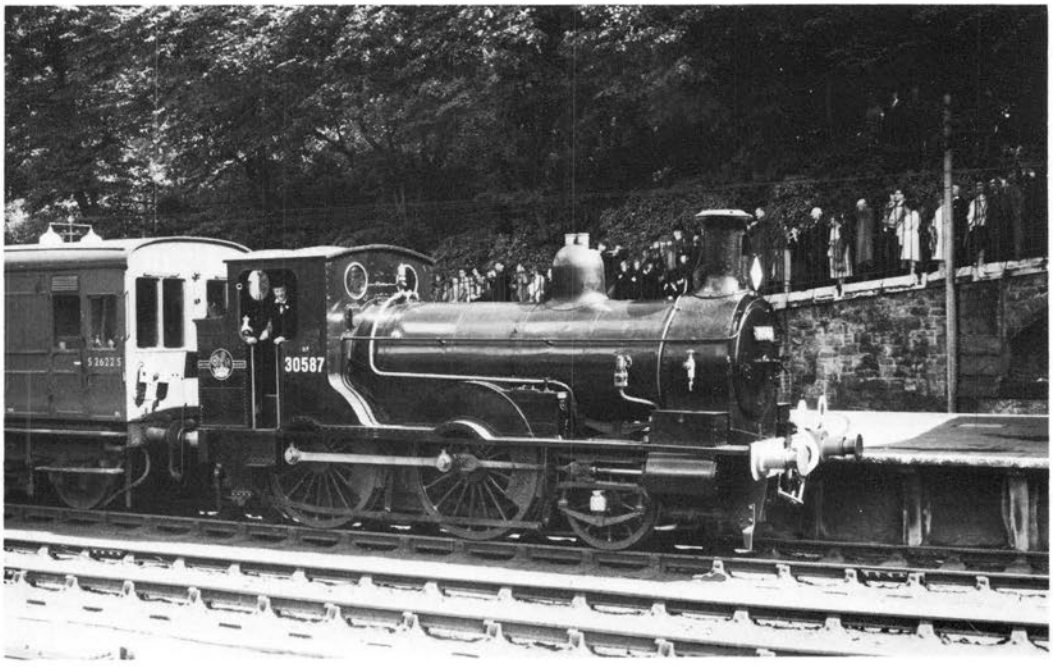




Above: All three surviving well tanks received general overhauls in 1948 and were given their BR numbers at this point; this was before the BR lion-and-wheel crest was available. No. 30587, in interim insignia, is at Wadebridge on 8th July 1949. *H.C. Casserley*



Later, the first pattern of BR crest was applied. In this form No. 30585 sets out on the Wenford branch, at Dunmere Junction, on 2nd September 1953. *S.C. Nash*



A revised layout of insignia was adopted when the second pattern of BR crest was applied; No. 30587, with 'diesel'-style numerals, takes part in the centenary celebrations at Exeter Central on 19th July 1960. *Ivo Peters*

the second pattern of crest, No. 30587 in May 1960 and No. 30585 in January 1961. Applying the letters and numbers of any livery, whether Southern or BR, to these engines was always a problem. Most engines had a large amount of space on the side of tender or tanks, and often ample space on the cabside as well, but there was really nowhere to spread out any form of insignia on these well tanks; particularly not on Nos. 30585 and 30587, though No. 30586, with larger splashers, was easier. Five figure numbers were clearly a problem, and non-standard numerals and unusual layouts usually had to be used.

By the BR era the fame and celebrity of the Beattie well tanks was firmly established, and many a railway enthusiast made the long journey to seek them out in their remote outpost of the system. The daily goods train, the 9.35 a.m. out of Wadebridge for Wenford Bridge, was a great attraction as it made its journey up the branch line. It always paused at points along the journey, one of these waits being for 20 minutes at an ungated crossing on the main Bodmin-Wadebridge road, and here the unsuspecting morning traveller might encounter this remarkable relic of the past, and could pause and view it at length, before it continued its unhurried progress up the Camel Valley. The survival of the well tanks continued to be due entirely to the absence of any suitable engines which could take over their job, but their great age, and non-standard design, meant that the authorities would have liked to replace them. Finally, in 1962, suitable substitutes were found in the ex-GWR '1366' class pannier tanks. This was a class which, appropriately, had a Cornish ancestry, and like the Beattie tanks, had Allen link motion. Surprisingly, in view of their imminent replacement, all three well tanks received general overhauls in 1960-61. The '1366' class pannier tanks arrived in August 1962, and after a few adjustments had been made, and No. 30587 had made a final farewell trip along the branch in September, the long innings of the Beattie well tanks was over.

But their fame meant that this was certainly not the end. On being replaced at Wadebridge they made their way to Eastleigh during September 1962 and it was hoped, at first, that all three would be preserved. But they had one final duty to perform. Most of them had begun their working lives on the London suburban lines, so it was fitting that they should end there. At about this time Mr H.C. Casserley, the emminent railway photographer and enthusiast, suggested to the Southern Region authorities that a Beattie well tank should haul a farewell railtour over London suburban lines. 'Not powerful enough', came the reply; 'Well', said Mr Casserley, 'what about two Beattie well tanks?' So on 2nd December 1962 Nos. 30585 and 30587 headed the six-coach South Western Suburban Railtour from Waterloo to Hampton Court and Shepperton. Apart from a scare at Hampton Court, when it was feared it might not be possible to replenish the well tanks' rather limited water supplies, the tour was a great success, so much so that it was repeated two weeks later. After the successful completion of the second railtour, the three Beattie well tanks were officially withdrawn, only two months short of the centenary of the introduction of Beattie's standard design of well tank in February 1863.

The last well tank duty at Wadebridge was an enthusiasts' brake van special to Wenford on 8th September 1962. No. 30587 heads this train near Wadebridge Military Platform. *S.C. Nash*

In Preservation

The two surviving Beattie well tanks are preserved following the contributions of a series of locomotive engineers. Joseph Beattie designed the type, and W.G. Beattie ordered the batch that included the two survivors. Adams rebuilt them, to put them into a form in which they could usefully serve into the twentieth century, and Drummond took the decision to retain them into the new century and gave them the major overhauls that ensured they were fit to continue to serve. Urie provided new boilers (of a Drummond pattern) for them, and Maunsell renovated many parts and provided new chimneys (again, of a Drummond pattern). Only Bulleid made no discernable contribution. So the two engines can hardly be said to be clear cut examples of the work of a single locomotive engineer. Though built in 1874, they are of a type introduced in 1863 and are thus a very early design among main line standard gauge preserved locomotives, representing distinctly earlier practice than, say, a Stroudley 'Terrier'.

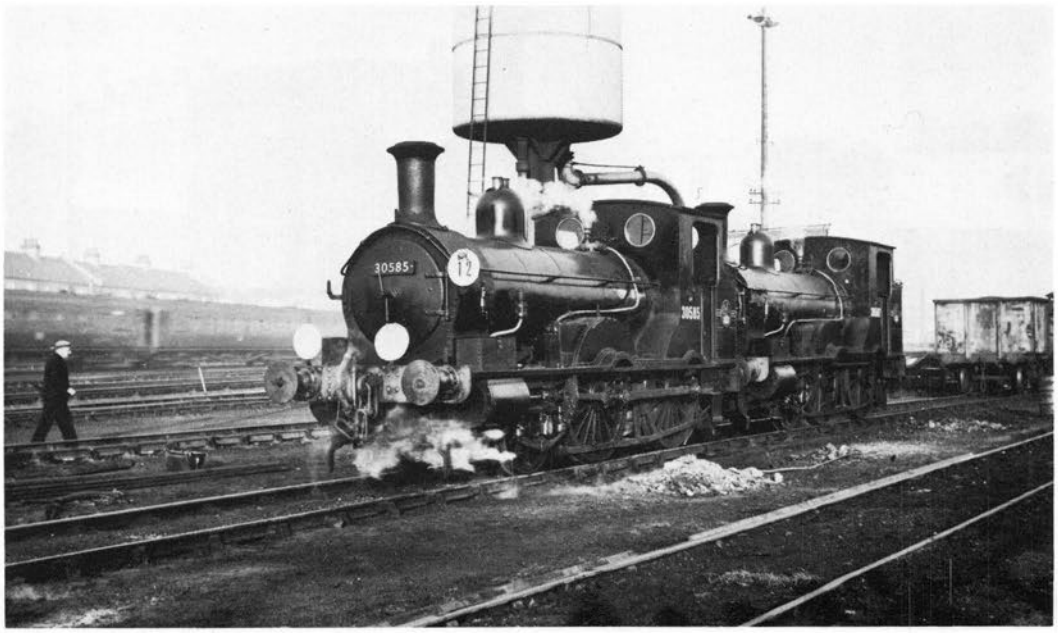
With this history, it was obvious that they would be strong candidates for preservation, and not surprisingly the list of locomotives to be preserved in the National Collection included one of them, No. 30587 being the chosen engine. Soon after the December 1962 London suburban railtours No. 30587 went into store at the Fratton roundhouse. During 1963-64 this locomotive shed came to contain most of the Southern Region's contribution to the National Collection, in 'as withdrawn' condition, awaiting the availability of better accommodation. Most of them left in September 1964, and No. 30587 set off from Fratton on 13th September, in company with No. 30850 *'Lord Nelson'* and 'M7' class No. 30245; but the well tank suffered a hot box at Woking the following day and so delayed the arrival of the three locomotives at Stratford (Eastern Region), where they were stored in the No. 2 Paint Shop. The well tank was moved to Preston Park, Brighton, in February 1968, and remained stored there, rarely on public view, for the next ten years.

No. 30587 finally left Preston Park, still in BR black livery, but in a rather shabby state by now, in April 1978. She was delivered by road to the Dart Valley Railway at Buckfastleigh, where she arrived on 23rd April, for display as a static exhibit. Later, the railway established its museum at Buckfastleigh, and in early 1980 the well tank was moved into this museum and put on display. The engine was given some external restoration early in 1981 and repainted in Southern Railway lined green livery as No. 3298. Whatever one may think about the attractiveness of this repainting, it is quite unauthentic, as there is no record of the engine ever being painted green in Southern days. There are no plans to return the engine to steam.

The other survivor, No. 30585, remained at Nine Elms after the London suburban railtour. During 1963 the London Railway Preservation Society launched an appeal to buy the engine, and on 30th December 1963 they bought No. 30585 for £750, with the help of two large donations. No. 30585 left Nine Elms on 18th March 1964 and was towed via Feltham and Temple Mills to Bishops Stortford, where she was stored, pending a decision on a permanent home. The search for such a base for the LRPS was somewhat protracted, but in Spring 1969 they established the Quainton Railway Centre, near Aylesbury; later the Quainton Railway Society was formed. The well tank now had a permanent home to go to, and was moved to Quainton by road on 9th May 1969. She has since become the emblem and mascot of the Quainton Society.

No. 30585 was steamed for the first time at Quainton on 22nd March 1970, and made her first public appearance on 18th July. The engine was in action, still in BR livery, during the 1971 and 1972 seasons, operating trains of brake vans and vintage rolling stock over the Quainton Centre's ½ mile of track. But after the 1972 season it was decided that a thorough overhaul was required, and this started in 1973, with the objective of completion by the time of the engine's centenary in 1974.

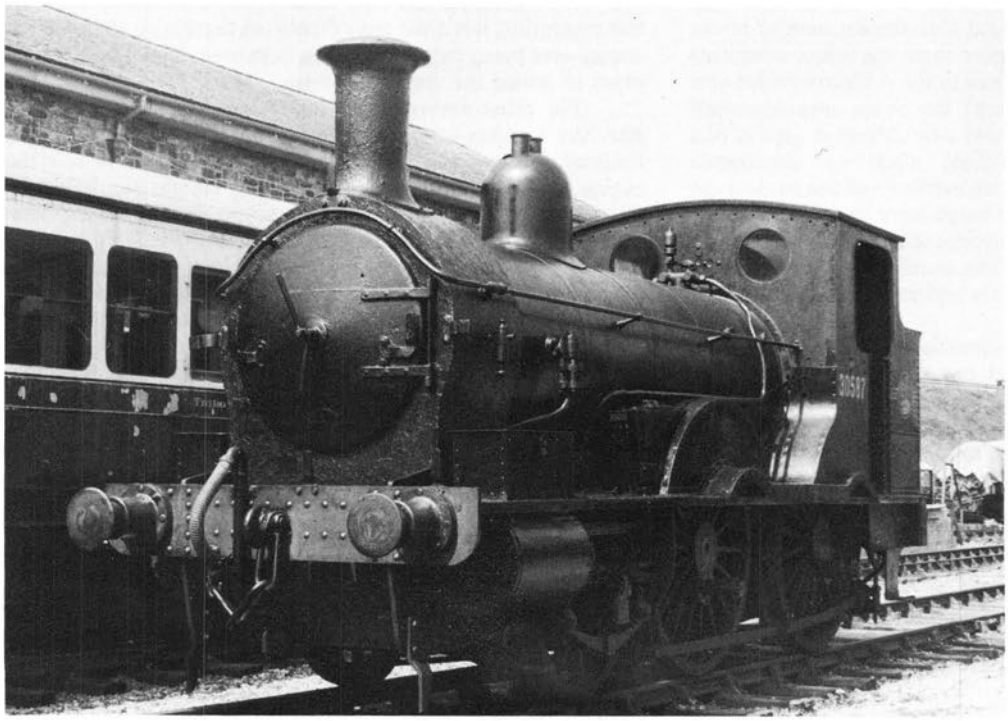
In the event this objective was not quite achieved. The engine's fire was lit for the first time after overhaul on 11th October 1975, though she had been used on a photographic assignment ten days earlier. The engine was now restored as Southern Railway No. E0314 and correctly painted in SR lined black goods livery. No. E0314 moved for the first time in steam after overhaul on 1st February 1976, and was in public use again at Easter 1976. She was in service through the 1976-79 seasons,



After leaving the Wadebridge area, the final BR duties for the Beattie well tanks were on a pair of South Western suburban railtours. The two locomotives are being watered at Wimbledon, during the first tour, on 2nd December 1962.
John Scrace

and during the last of these four seasons she made 440 journeys on the running line at Quainton. The engine was retubed in 1979-80, but the further boiler and firebox work scheduled for 1981 could not be undertaken owing to the cost of about £10,000, and No. E0314 remained out of use until such time as finances for the work could be made available.

So it has come about that No. 298, the engine which worked in its earliest days in the West Country, is preserved in the West Country, while No. 314, which served at first in the Home Counties, is now preserved in (more or less) the Home Counties.



Left: Still in BR condition after a long period of storage at Preston Park – No. 30587 soon after arrival at Buckfastleigh, Dart Valley Railway, in April 1978.
Roger Penny

Below: No. 30585, restored as Southern Railway No. E0314, has had lengthy active spells at Quainton Road; here she heads a typical Quainton train on 25th June 1978. *Mike Esau*

William Adams (1823-1904)
Locomotive Superintendent 1878-95

In William Adams' early working days, railway engineering was hardly a fully fledged profession, and Adams worked at first as a marine engineer. He moved into railway engineering in the 1850s and had a long and distinguished term of office in charge of locomotive matters on the North London Railway at Bow (1854-73). He then moved to the Great Eastern Railway at Stratford, where he built the first British 2-6-0 'Mogul', before becoming locomotive superintendent of the LSWR in January 1878.

Adams' first new designs for the LSWR bore some similarity to Beattie's locomotive policy; four-coupled outside cylinder tender engines for express work, and four-coupled outside cylinder tank engines for the important London suburban workings. But Adams had pioneered the successful use of bogies under locomotives, and in his designs a leading bogie replaced the leading single axle; from this point the LSWR hardly built another locomotive with a single leading axle.

By contrast to Beattie before him, and Drummond afterwards, Adams was not so strong an advocate of complex components in his locomotives, and the layouts of his locomotives were relatively simple. In the detail matter of chimneys, too, the plain Adams stovepipe contrasted with the carefully lipped chimneys of Beattie (in his later designs) and Drummond (throughout), and the most characteristic Adams livery was an elegant, but restrained, green edged with black.

Adams retired from the LSWR in 1895.

'0415' class 4-4-2 tank No. 488

The provision of motive power for the London suburban services continued, during Adams' period in office, to be a major consideration among the LSWR's locomotive requirements. The first new Adams design for the railway was the '46' class 4-4-0 tank of 1879, which were the first successors of the Beattie well tanks on the London suburban workings. Like the well tanks, the '46' class were built by Beyer Peacock, from whom Adams continued, at first, to obtain almost all his new locomotives. The only shortcoming of the '46' class was their limited coal capacity, so they were later rebuilt as 4-4-2 tanks with larger bunkers. But Adams severed the Beyer Peacock connection in 1882, and the last batch of engines supplied to the LSWR by the Manchester builder were the first batch of twelve of Adams' new design of suburban tank engine, a 4-4-2 tank developed from the '46' class.

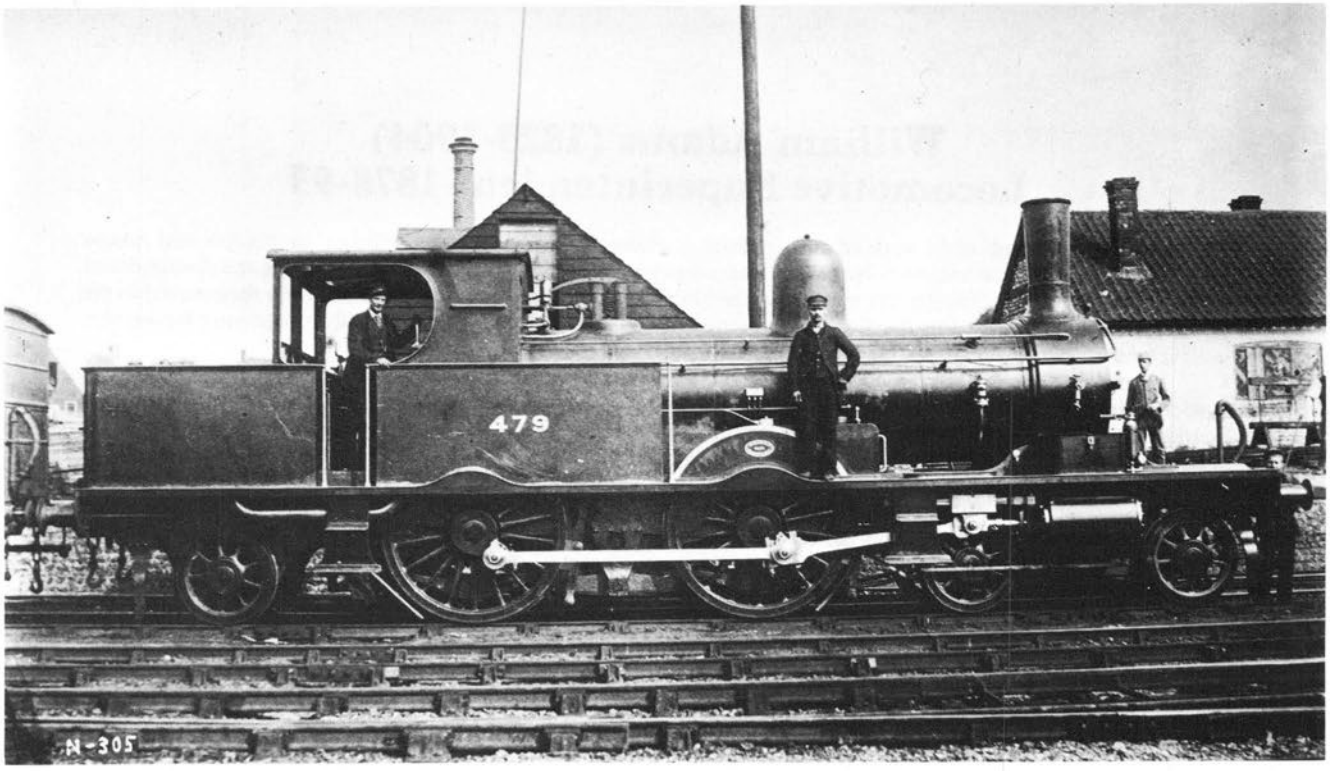
This was the '415' class, which eventually totalled seventy one, built between 1882 and 1885. Twenty eight were built by Robert Stephenson & Co, twenty by Dübs, and eleven by Neilsons. Though they did have small side tanks, most of their water supply was carried in a well tank beneath the bunker. The engines came to be widely known as the Adams 'radial tanks', as they were among the very few LSWR engines to have a trailing radial axle. The surviving engine, No. 488, entered service in March 1885 and was one of the batch of eleven, Nos. 479-489, built by Neilsons in 1885.

As with so many LSWR tank engines, most of the '415' class were put to work immediately on London suburban workings; No. 488 was one of these, working from Nine Elms and other sheds in the London area during her early years. But, as happened with successive generations of LSWR tank engines, they were soon displaced from the demanding London suburban workings by another tank engine design, in this case the 'T1' class of 1888. Just as the Beattie well tanks had been before them, the '415' class were soon scattered over the LSWR system, and served for several more years on secondary and rural traffic. No. 488 moved to work from Exeter around 1895, then to Bournemouth early in the new century and on to Eastleigh about 1905.

Few modifications were applied to the '415' class in service, the most noticeable being the Drummond chimneys which replaced the original stovepipes on most of the class; No. 488 received such a chimney in May 1903. As happened to so many ageing LSWR engines, the '415' class began to be placed on the duplicate list, and so became known as the '0415' class. Duplication started for these engines in 1904, and No. 488 became No. 0488 in March 1914, when the Urie 'H15' 4-6-0 No. 488 was completed. But with the first stages of the LSWR London suburban electrification, the '0415' class started to become redundant, and the newly duplicated No. 0488 was almost immediately stored out of use at Eastleigh. Several of the class were soon derelict there, and scrapping could be expected to follow sooner or later. Most of them were reinstated when the 1914-18 war began, but No. 0488 was, instead, sold to the Ministry of Munitions in September 1917 for £2107, and was sent to work at the Ridham salvage depot, near Sittingbourne. But she was only employed there for a short time, before being sold once more, in about 1920, to the East Kent Railway for £900.

The East Kent Railway was opened in 1912, and was built to serve the developing Kent coalfield, the existence of workable coal deposits in Kent having only been confirmed a few years before. The engineer, and later the general manager, of the railway was Colonel H.F. Stephens, the celebrated advocate and exponent of light railways. The railway ran from Shepherdswell, on the old London, Chatham & Dover Railway main line to Dover, and expanded as it sought to serve as many as possible of the collieries in the coalfield; but as only Tilmanstone, among the collieries it served, proved successful, the fortunes of the railway were never very good.

On arrival at this railway byway, the former No. 0488 became EKR No. 5, but remained in LSWR lined green livery, merely being patch-painted to show the new owners and number; later, probably in 1935, she was given a full repaint in a version of Southern Railway lined green. No. 5 was put to work on passenger traffic, from which the railway tried to augment its income. From Shepherdswell its main line stretched for 11¼



Above: William Adams brought a clean-lined elegance to the design of LSWR locomotives, and this was already apparent in his '415' class tanks. The survivor, No. 488, was built by Neilsons; No. 479, the first of their batch, is seen at Ascot on 23rd September 1895.

J.B.N. Ashford/Collection of the late George Kerley

No. 488 became East Kent Railway No. 5 in the 1920s, and ran on this line in Drummond condition with his style of chimney, and coal rails. In the mid 1930s the locomotive was overhauled and repainted at Ashford. With livery and lining in the SR manner, No. 5 is at Shepherdswell on 29th July 1939.

S.W. Baker

EKR No. 5 was bought by the Southern Railway in 1946. A Drummond boiler was fitted, the coal rails plated over and SR wartime livery applied. As No. 3488, the locomotive is at Seaton Junction, away from her usual haunts, on 9th July 1949. *H.C. Casserley*

The Lyme Regis branch had become really celebrated by the 1950s, and offered many photographic settings. As BR No. 30583, in lined black and with the earlier pattern of BR crest, the locomotive is near Combpyne on 2nd October 1958, with a typical branch train. *D.M.C. Hepburne-Scott/Rail Archive Stephenson*

The junction for the Lyme Regis branch was at Axminster; No. 30583, now with the second pattern of BR crest and an Adams boiler fitted once more, is setting out with a branch train, about 1960. *Ivo Peters*

miles, passing the villages and fields of rural Kent, to a remote roadside terminus, rather hopefully called Canterbury Road. It was hardly a promising area for passenger traffic, but No. 5 was kept reasonably busy in the 1920s, rather less so in the 1930s, and was derelict at Shepherdswell from 1939. This was almost exactly a quarter of a century after the engine had previously been cast aside at Eastleigh, and, but for events elsewhere on the neighbouring Southern Railway, the old Adams radial tank would probably have faded quietly away around 1950.

By 1920 the LSWR had started to sort itself out after the war, and suburban electrification was well established. The '0415' class were dumped, out of use, in large numbers in the early 1920s, and most of them were withdrawn between 1921 and 1928. But in 1913 one of them, No. 0125, had been sent to work on the Axminster-Lyme Regis branch. This 6¾ mile branch, opened in 1903, followed a tortuous route, with severe gradients; finding suitable motive power had proved a headache for its owners. Ex-LBSCR 'Terriers', including the surviving No. W8 *Freshwater* (ex-LSWR No. 734), and '02' class tanks had been tried, but none had given satisfaction. But the Adams radial tank fitted the need far better than any other type, and the line soon became their special province. No. 0125 was soon joined by two others of the class, but as the withdrawals of the 1920s proceeded these two went and No. 0520 became No. 0125's partner on the branch. From 1926 these two engines had the line more-or-less to themselves. They survived an attempt, around 1930, to replace them with ex-LBSCR 'D1' class tanks, and received major overhauls including new frames.

The two Lyme Regis tanks became Nos. 3125 and 3520 in the 1930s, and continued to work the branch on a one week on, one week off, basis. The branch engine was stabled at Lyme Regis shed during the week, being relieved on Saturdays by the other engine travelling out from the main depot at Exmouth Junction. This arrangement was fine until one of the pair had to go to Eastleigh works for overhaul, when unsatisfactory makeshift arrangements would have to be made, usually involving an '02' class tank engine. The real solution would be a third radial tank. Matters came to a head in 1946, when both Nos. 3125 and 3520 required major overhauls; the Southern Railway had an urgent need to find another suitable engine for this unique branch line. It was then realised that the East Kent Railway possessed just the engine that was needed, though this engine had been derelict since 1939. EKR No. 5 was handed over to the Southern, leaving the East Kent on 15th March 1946, and arriving at Eastleigh Works six days later. On 24th July 1946 the Southern's Locomotive, Carriage & Wagon, and Electrical Committee approved the purchase of the engine for £120, though it was estimated that £1500 would need to be spent on reconditioning; this purchase was completed three days later. The engine was taken into SR stock on 13th August 1946 as No. 3488, this being the number she would have carried by then, had she remained on the LSWR and Southern throughout. A general overhaul, including fitting of the spare boiler for the class, was completed on 30th November 1946 and the engine was then despatched to Exmouth Junction shed for service on the Lyme Regis branch. The subsequent irony was that in January 1948 British Railways, Southern Region, would have acquired this engine as part of the East Kent Railway's stock and at no cost.

On entering Southern Railway service the engine was painted in the normal wartime plain black livery, with sunshine lettering, but by the time of her next major overhaul at Eastleigh she was British Railways property, and was renumbered 30583 in October 1949 and painted in BR lined black livery with the earlier pattern of BR lion-and-wheel crest. This was replaced by the second pattern of crest at the engine's final BR general overhaul in February 1959. Nos. 3125 and 3520 similarly became BR Nos. 30582 and 30584 respectively.

In BR times the fame of the Lyme Regis branch, with the Adams radial tanks, equalled that of the Wenford branch, with the Beattie well tanks. But the Lyme Regis branch had the bonus that the ordinary traveller could travel on it at any time. For most of the year a one or two-coach train was sufficient for the traffic, but on summer Saturdays the stately veteran tank engines could be seen to particular advantage. The holiday traffic meant there were through London coaches to be worked, and much larger train formations; the relieving engine travelled up from Exmouth Junction in the morning and the two engines double-headed many of the day's workings.

Dimensions

Wheel arrangement	4-4-2	Weight in working order	55 tons 2 cwt
Cylinders (2) - bore	17½"	Grate area	18 sq.ft
stroke	24"	Total heating surface	1,059 sq.ft
Driving wheel diameter	5' 7"	Boiler tubes	199 x 1¾"
Boiler pressure	160 lb/sq.in	Water capacity	800 gallons
Tractive effort	14,919 lbs	Coal capacity	1 ton
Wheelbase	29' 5"		
Overall length	38' 8¼"		
Overall height	13' 2¾"		

Stephenson link motion, slide valves, lever reverse, right hand drive

Service History

Type introduced - August 1882

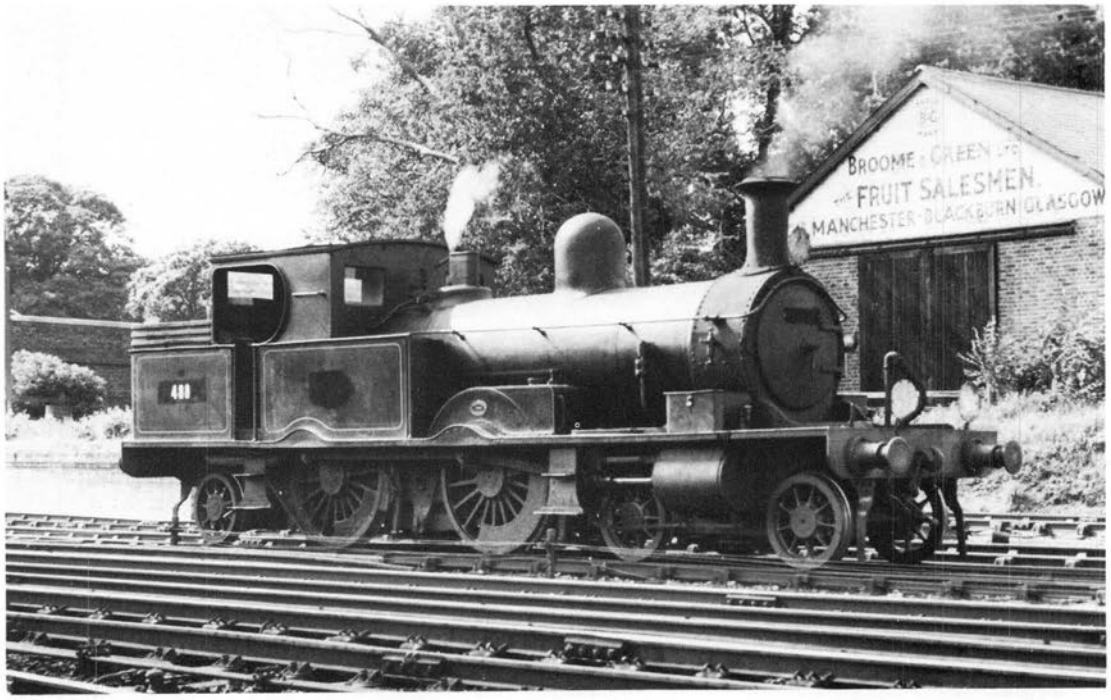
No. 488

Built by..... Neilsons Works No.... 3209
Cost..... £2585 Service date..... March 1885
Numbers:- LSWR - 488 (3/85), 0488 (3/14)
Min. of Munitions - 27 (probably never carried)
EKR - 5 (about 1920)
SR - 3488 (11/46)
BR - 30583 (10/49)
Withdrawn.... July 1961 Final mileage ... 1,604,703

Summer Saturdays brought much longer trains onto the Lyme Regis branch on through workings and called for regular double-heading by two Adams radial tanks. No. 30583 heads No. 30584 on a train from Waterloo on 8th August 1959.
Bluebell RPS Archives

The fame of the branch meant that when the Railway Correspondence and Travel Society organised their 25th anniversary railtour, from Waterloo to Exeter and back to Paddington, the one branch line the tour stopped to visit was the Lyme Regis branch. This was on 28th June 1953, and the tour's diversion over the branch was hauled by No. 30583, assisted by 'Terrier' No. 32662. Otherwise, during the 1950s, the three Adams radial tanks continued to work the Lyme Regis branch, turn and turn about, each engine averaging about 18,000 miles per year.

But the three Adams radial tanks were getting old, and as before, replacements were sought. A Western Region '1400' class 0-4-2 tank, No. 1462, was tried in 1957, but without success. Finally, in 1960, following track renewals, the definitive replacement arrived, a class '2' 2-6-2 tank of LMS Ivatt design. This did mean the end for the Adams tanks. No. 30584 was withdrawn in January 1961 and Nos. 30582 and 30583 followed in July 1961. The ex-LMS 2-6-2 tanks remained in charge for less than 2½ years; they were displaced by diesel multiple units in November 1963, and the Lyme Regis branch closed completely in November 1965.



On initial sale and delivery to the Bluebell Railway, the locomotive was 'patch-painted' to restore the original number and obliterate any mark of ownership. No. 488 pauses at Worthing on 9th July 1961, en route from Eastleigh to Sheffield Park. *S.C. Nash*

For her return to service in 1962 on the Bluebell Railway, No. 488 was repainted in Adams light green livery, which was not, strictly speaking, consistent with the Drummond chimney and the coal rails on the bunker. The locomotive is passing Ardingly on the now dismantled BR Haywards Heath-Horsted Keynes section on 31st March 1963, with a 'Blue Belle' special working from Victoria. *S.C. Nash*

Left: After the 1971-73 overhaul, No. 488 was repainted in Drummond livery. This was compatible with the locomotive's chimney, though authentic Drummond condition would call for coal rails on the bunker, but not plated over. The locomotive is at Horsted Keynes on 4th August 1973, preparing to return to Sheffield Park with a directors' special. *S.C. Nash*

Below:
In 1982 the locomotive was repainted in BR lined black as No. 30583; and is seen working a train of appropriate BR stock in November 1982.
Mike Esau

In Preservation

In contrast to the decidedly 'mongrel' condition of the preserved Beattie well tanks, the preserved Adams radial tank comes very close to being in her original condition. This was the only one of the three Lyme Regis survivors to retain the original frames, with graceful curved 'step downs' in front of the smokebox, and the original single slide-bars and crossheads. To return the preserved engine to original 1885 Adams condition, almost all that was needed was to reinstate the Adams stovepipe chimney, remove the safety valve covers and coal rails, and restore the original cab roof without the Drummond-style rib. In addition, the engine retains the original Adams boiler and is, with the 'Terrier' No. 3 *Bodiam* (BR No. 32670) the only surviving engine belonging to the Colonel Stephens light railways.

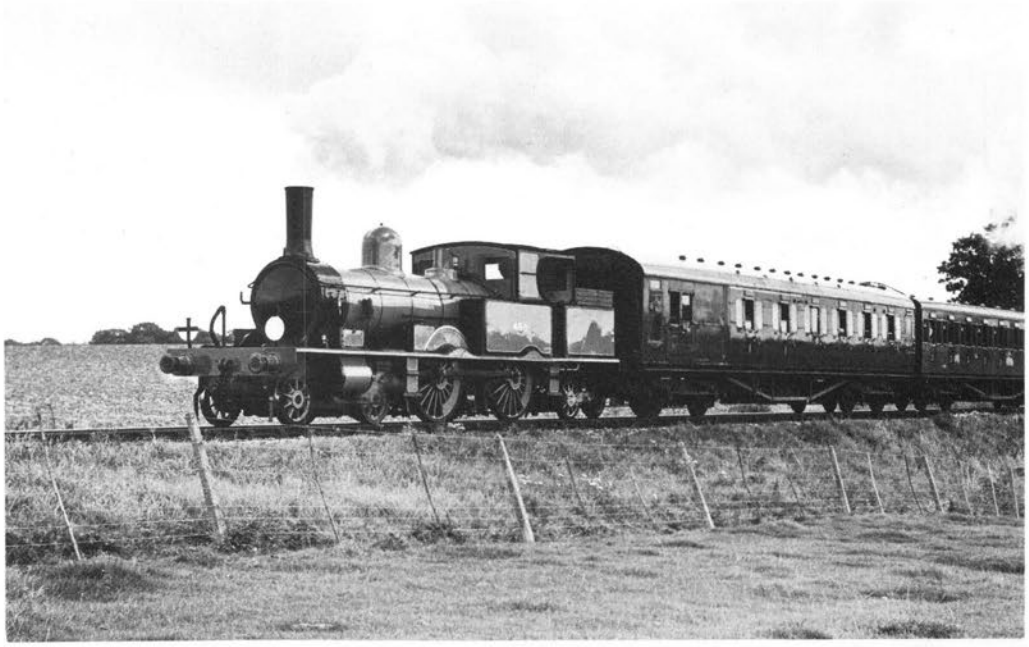
The Bluebell Railway appreciated the rare historic qualities of this engine at an early date, and bought her for £850 when she was withdrawn by British Railways. The engine was despatched light from Eastleigh on 9th July 1961, with BR number and all signs of ownership painted out, and with the number 488 restored to the tank sides, though in BR 'diesel-type' figures. No. 488 went to Brighton shed, where she was prepared for handover; she was believed to be the first Adams engine to visit Brighton since 'T3' class No. 563 in April 1958. The radial tank left Brighton shed on 12th July, still under her own steam of course, and proceeded to Horsted Keynes where she was handed over to her new owners. She celebrated her arrival by working a special passenger train over the Bluebell line the same evening; the Bluebell Railway staff were immediately impressed by her extra reserves of power, and more spacious cab, when compared with the ex-LBSCR 'Terriers' and ex-SECR 'P' class engines which constituted their locomotive stock at the time.

During the winter of 1961-62 the radial tank was prepared for the 1962 season, and most notably was repainted in Adams light green livery. In service the engine soon showed herself to be extremely valuable, being able to work light loads economically, while able to tackle considerably heavier loads when the occasion arose. No. 488 was soon a highlight of the Bluebell line, and on several occasions took over specials worked through from British Railways; in 1962 and 1963 these included visits to Haywards Heath where she encountered another ex-LSWR locomotive in LSWR green livery, the preserved 'T9' class No. 120.

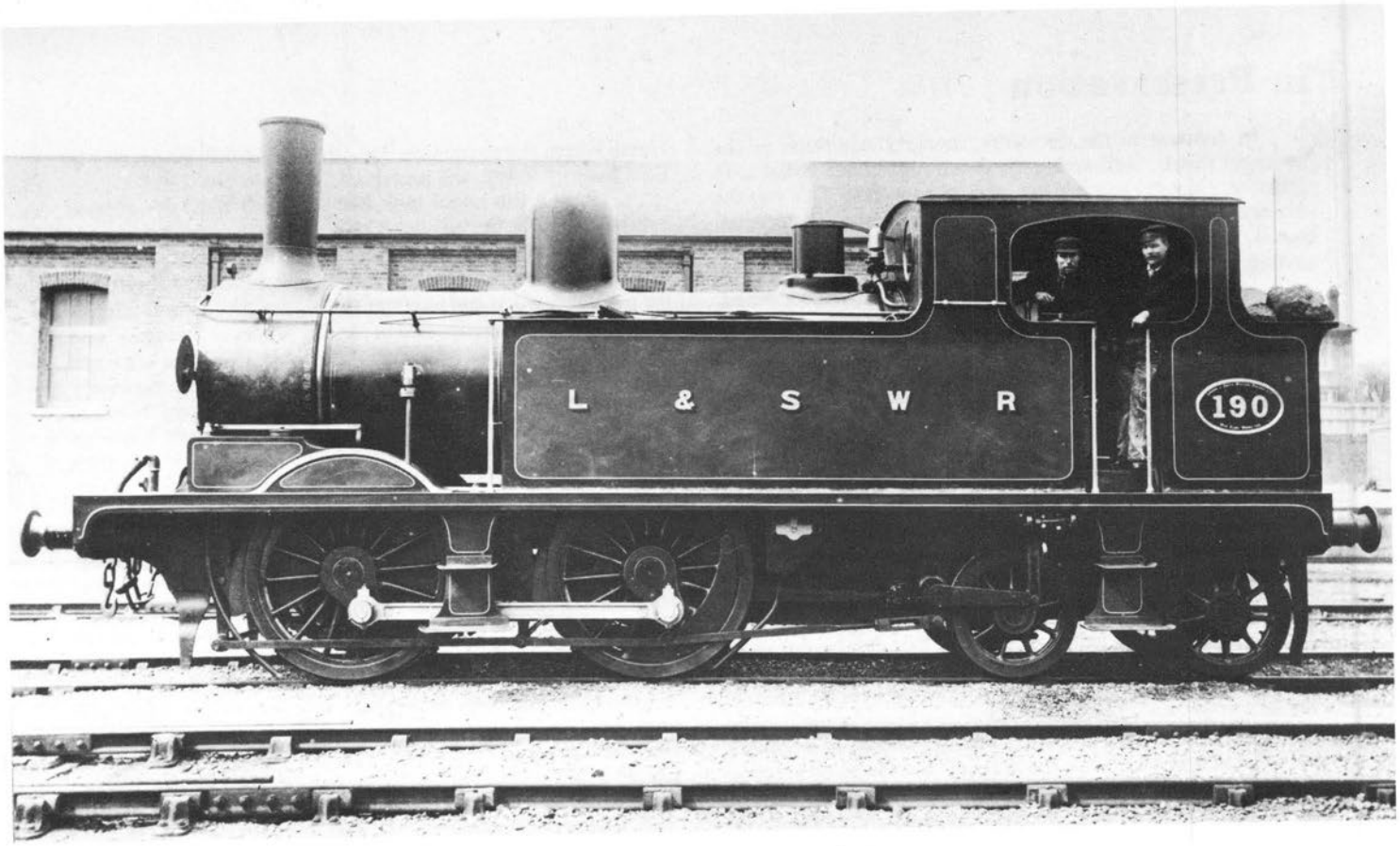
Though the radial tank had a British Railways general overhaul in 1959, the inevitable processes of use and wear meant that by 1970 thought had to be given to a further major overhaul. But the Bluebell Railway had insufficient facilities to carry out the necessary work, and so after careful thought it was decided to have the overhaul performed at the BR Works at Swindon. The engine left for Swindon by road in October 1971, and the work was performed there during the following year, the necessary boiler work being carried out at Crewe. The final bill was £17,579, and this more than anything else brought home to everyone the necessity of the Bluebell Railway having its own works facilities, and led to the construction of the present works. The engine left Swindon in January 1973 to return to the Bluebell.

The necessary repainting was carried out by Bluebell Railway staff following the engine's return, and she was now restored to Drummond lined green LSWR livery, rather than the previous Adams livery. This was more appropriate for an engine with a Drummond chimney. Restored to working condition, the engine made her first trip up the line in her new livery on 4th August 1973, and soon settled back into regular use again; she even took on 'Russian' appearance for filming purposes at Horsted Keynes in November 1974. No. 488 seems not to have required very much works attention during the following years; she received some firebox repairs early in 1977, and again early in 1982. But by this time the ten year rule, requiring lifting of boilers for insurance purposes, was about to catch up with the engine, and major attention would soon be necessary.

So, as a final flourish before overhaul, and as a gesture to BR era steam fans, the engine was repainted in BR lined black livery as No. 30583 once more. In this form and working, for instance, a two-coach late autumn afternoon service, the engine offered an excellent evocation of a British Railways 1950s branch line scene. She ran in this form from autumn 1982 until spring 1983, and was then overhauled, re-entering service, with a stovepipe chimney, on 3rd August 1985.

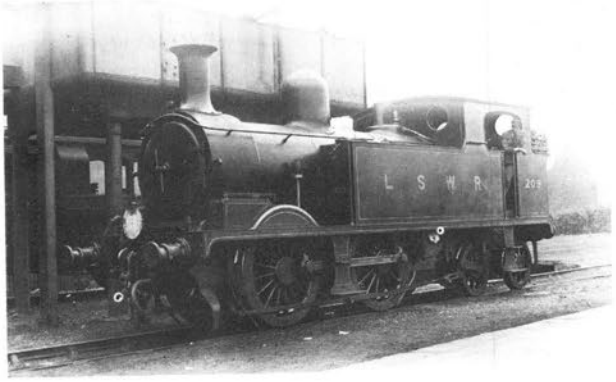


With stovepipe chimney finally refitted and once more in Adams livery, No. 488 is on Freshfield bank on 15th September 1985.
Mike Esau



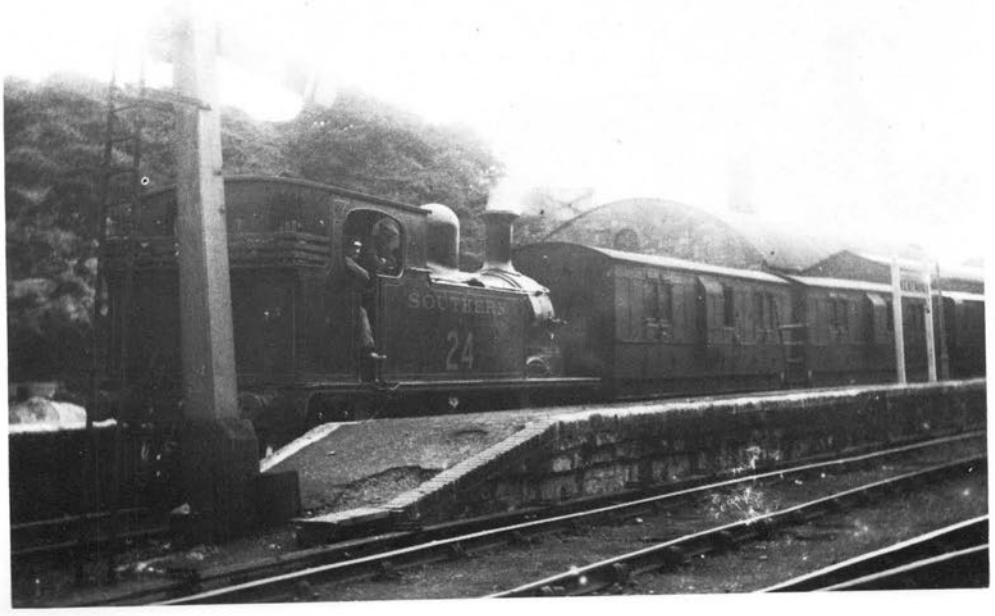
Above: The 'O2' class, as built, were typical examples of Adams's latterday practice in building anything other than express engines; a neat, compact arrangement with inside cylinders and stovepipe chimney, and finished in Adams's relatively restrained livery.

By courtesy of National Railway Museum, York



Right: The inevitable Drummond modifications to the 'O2' class were coal rails and his own pattern of chimney. The preserved locomotive, as LSWR No. 209 in Urie livery, is at Exmouth on 4th August 1922.

H.C. Casserley Collection



In 1925, No. 209 went to the Isle of Wight as No. W24. On a train of vintage rolling stock, the locomotive prepares to leave Ventnor on 27th July 1926.

LCGB Ken Nunn Collection

'O2' Class No. 209

In 1887 two notable changes occurred in Adams' locomotive building policy; he began to build locomotives at the LSWR's main works at Nine Elms once more, after a break of twelve years, and he switched from outside to inside cylinders in his designs for general purpose workings, including secondary passenger traffic and light goods. The use of inside cylinders in this case allowed a more compact layout, and probably reflected increased confidence in the ability of the LSWR's workshop processes to build the requisite crank axles to a high enough standard.

The locomotives which signalled these new departures were the 'A12' class or 'Jubilees', a 0-4-2 tender locomotive rather reminiscent of the LBSCR 'Gladstones'. This mixed-traffic class was soon followed by the 'T1' class 0-4-4 tanks, of 1888, which were virtually their tank engine equivalents; both these classes were extinct by about 1950. Adams' next design was in effect a miniature version of the 'T1' class, a smaller 0-4-4 tank engine which was the 'O2' class, introduced in 1889. Sixty of them, Nos. 177-236, were built between then and 1895, and unlike the earlier, and larger, '0415' and 'T1' classes they were not, in the main, used initially on London suburban services. They were built to replace worn out Beattie tanks, many of whose numbers they took, and they mostly found early use in the provincial parts of the LSWR system; for many of them this remained their place of work all their lives. None of this class were withdrawn until the 1930s, and most survived into the 1950s.

The first twenty 'O2s' were authorised in January 1889, and another ten in January 1890. A further twenty were authorised in August 1890, and the third engine of this batch is the one survivor of the class. This engine was completed at Nine Elms as LSWR No. 209 in December 1891, being recorded as a 'small bogie tank'. She was initially allocated to Nine Elms, and worked from sheds in the London area until the turn of the century, when she was transferred first to Dorchester and then to the Exeter area. In 1903 the Isle of Wight Central Railway approached the LSWR with a view to purchasing an 'O2', and No. 209 was the actual engine which the IWCR directors inspected at Nine Elms, but the two parties could not agree a price. About 1908 the engine was sent to work from Plymouth, and is believed to have stayed in that area until the Grouping in 1923; during this period the engine's stovepipe chimney was replaced by one of Drummond pattern.

As soon as the Southern Railway was formed in 1923, they identified the 'O2' class as suitable engines to replace much of the existing locomotive stock on the Isle of Wight Railways, which had become part of the Southern at the Grouping. Some 'O2s' being surplus to mainland requirements, following London suburban electrification, they could be sent to the Isle of Wight immediately. The first two 'O2s' sent to the Island, Nos. 206 and 211, arrived there in LSWR livery in May 1923, and more of the type followed regularly over the next few years. No. 209 was one of the third pair sent to the Island. In March 1925 the engine completed a general overhaul at Eastleigh Works, at which time she would be expected to receive the number E209, in the normal Southern manner, but instead she appeared as No. W24. The following month this engine and No. W23 (ex No. 188) were landed at Medina Wharf, Cowes, by the Southern Railway's floating crane.

No. W24, like all Isle of Wight 'O2s', was equipped with Westinghouse air pump and reservoir, but unlike most of them was also, at first, equipped for push-and-pull working; but this extra equipment was never used, and was removed in 1930. There was a long tradition of naming engines on the Island, unlike on the LSWR, and in May 1930 No. W24 was named *Calbourne* after a village in the western half of the Island. No. W24 was allocated to Ryde shed throughout her years on the Isle of Wight, except for a short period of loan to Newport shed in 1947.

The 'O2s' soon proved themselves so suited to the Island's railways that more and more of them were transferred from the mainland, until there were eventually twenty three of them on the Island, and they were by far the predominant type. During the 1920s and 1930s they steadily took over an ever larger proportion of the Island passenger traffic; by the time of nationalisation the only other engines on the Island were the last

Dimensions

Wheel arrangement	0-4-4
Cylinders (2) - bore	17½"
stroke	24"
Driving wheel diameter	4' 10"
Boiler pressure	160 lb/sq.in
Tractive effort	17,234 lbs
Wheelbase	20' 4"
Overall length	30' 10¾"
Overall height	12' 3¼"
Weight in working order	48 tons 8 cwt
Grate area	13.83 sq.ft
Total heating surface	987 sq.ft
Boiler tubes	201 x 1¾"
Water capacity	800 gallons
Coal capacity	3 tons

Stephenson link motion, slide valves, lever reverse, right hand drive

Service History

Type introduced - December 1889

No. 209

Built by ... LSWR Nine Elms Order No..... D4/3
Cost..... £1627 Service date .. December 1891
Numbers:- LSWR - 209 (12/91)
SR - W24 (3/25) 'W' prefix not carried
BR - W24 from 1930s.
Withdrawn .... March 1967 Final mileage 1,639,478

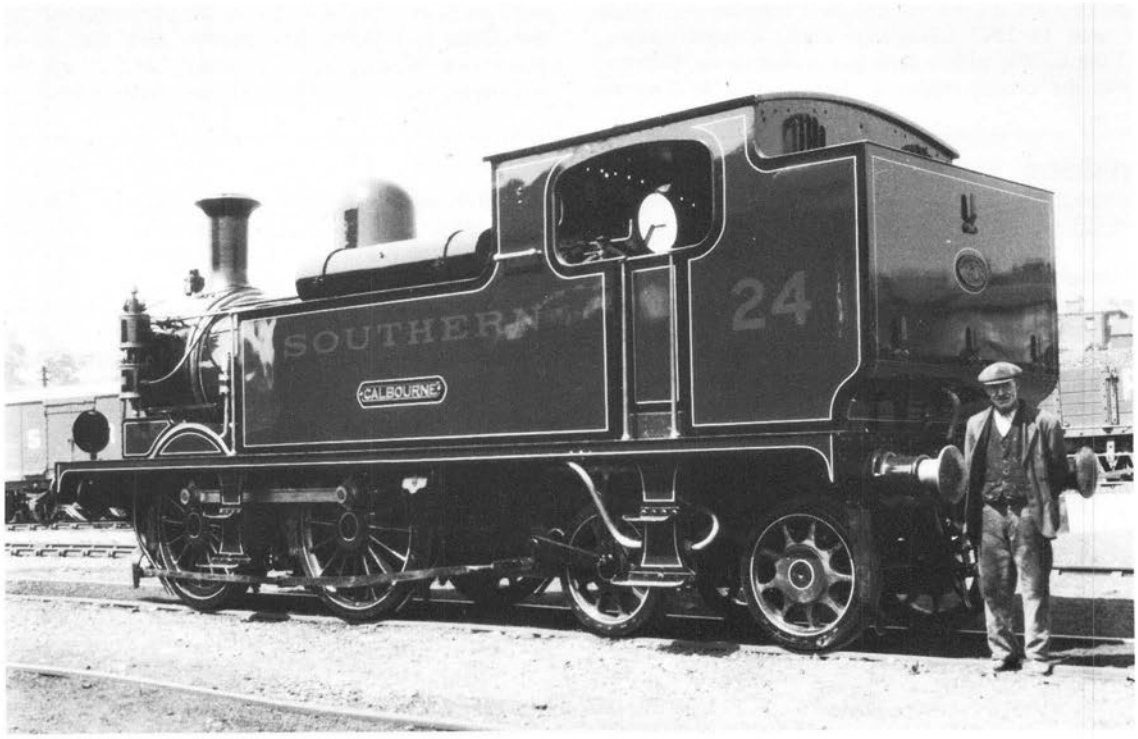
two ex-LBSCR 'Terriers' (one of them No. W8 'Freshwater') and the four 'E1' class tanks, also of LBSCR origin, which mainly handled the small amount of freight traffic. All the 'O2s' on the Island were named and were, in Southern days, always painted in the Southern express passenger livery of the time. 'O2s' on the mainland may have been quite lowly, but on the Island they were the top engines for about 40 years.

It became apparent quite early on that the 1½ ton capacity of the 'O2s' bunkers was inadequate for the intensive service they were now running. In particular, if the need to run light engine from Ryde Pier Head to Ryde St. Johns for coal during a busy summer Saturday could be obviated, then the important Ryde-Ventnor service could be run with one fewer engine. The design of the enlarged bunker, giving a capacity of 3 tons, was inspired by those of the Maunsell 'W' and 'Z' class tank engines, and from 1932 the bunkers of all the Island 'O2s' were modified in this way. Their livery remained the Southern's passenger lined green during the 1930s, but from about 1940 unlined green, with Bulleid's style of lettering, replaced this; No. W24 received this livery in April 1940. Then, from 1941, their livery became unlined black, but No. W24 is believed never to have received this.

In the early part of the war, passenger traffic on the Isle of Wight was very low, in the absence of holiday makers, but towards the end of the war it began to pick up again. The railway soon responded to the post-war situation, and started to paint its engines malachite green, which No. W24 had received by 1947. The formation of British Railways did not result in renumbering of the Island engines, as it did on the rest of the Southern Region; the malachite green 'O2s' continued at first to run in this livery, with 'SOUTHERN' replaced by 'BRITISH RAILWAYS' on the tank sides, and No. W24 received this treatment in about July 1948, but from January 1949 they were painted in BR lined black livery. When the BR lion-and-wheel crests were applied, from August 1949, it was found necessary to move the nameplates lower on the tank sides.

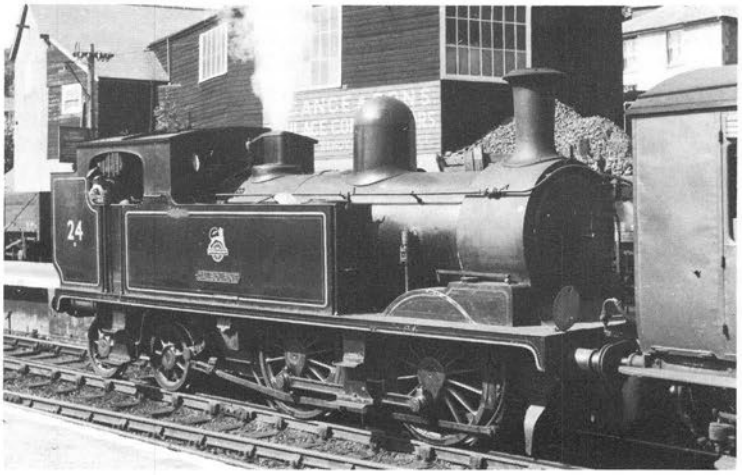
By around 1950 the Isle of Wight holiday traffic had built up again, and three million people were visiting the Island each year, with peaks of 60,000 arriving at Ryde on summer Saturdays, many of them requiring to travel inland by rail. The Island's 'O2s' were kept at full stretch at such times, but only a few years later the traffic began to dwindle; the first line closures occurred in 1952 and 1953, and this led to the first withdrawals of 'O2s' on the Island in 1955. The remaining services, from Ryde to Ventnor and to Cowes, continued to operate into the 1960s, and by 1964 the Island's railways offered a unique opportunity to sample a Victorian railway system, with pre-grouping locomotives and rolling stock. The first threats of closure of the remaining services began around this time, and things were definitely starting to run down.

During her Island days No. W24, like all the Island engines, received regular overhauls at Ryde Works; only very occasionally did Ryde send an engine to Eastleigh for attention. The overhaul process at Ryde usually took longer than at Eastleigh; while Eastleigh in the 1950s regularly completed general overhauls of large engines in 3-4 weeks, Ryde usually took 2-3 months for a general overhaul of an 'O2'. Between March and May 1965 No. W24 received her final BR overhaul at Ryde, and was the last steam engine to receive a major repair there. She was returned to traffic at the start of June repainted in 'economy' livery of BR unlined black, and at first without nameplates, but later with small pieces of strip metal on the tank sides, with the name painted on. Eleven 'O2s' managed to soldier through the final 1966 steam season, but all were withdrawn by the end of December 1966, except Nos. W24 and W31 which were retained to work engineering trains in connection with the electrification of the remaining Ryde-Shanklin line. With this final task completed, the last two Island 'O2s' were withdrawn in March 1967.



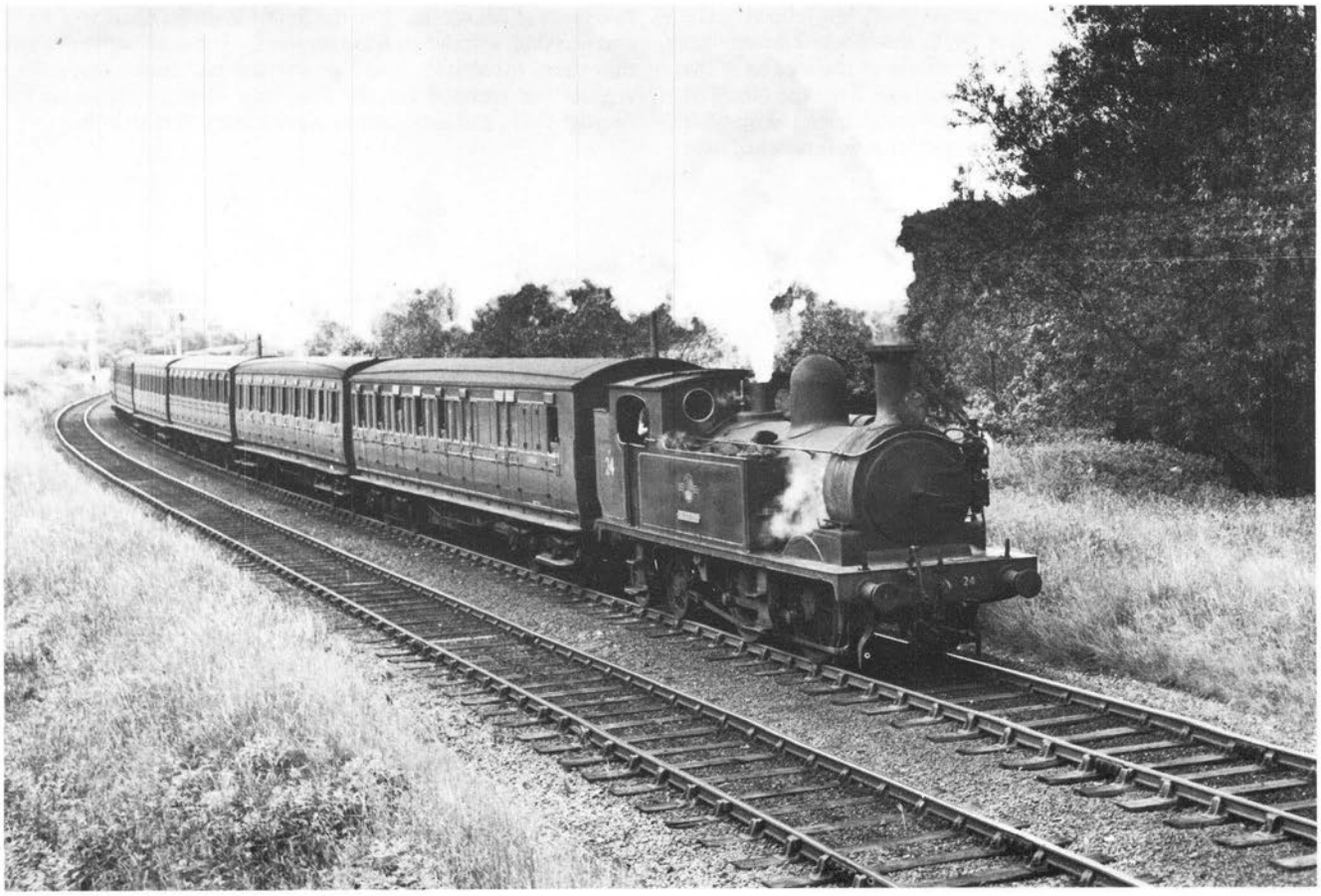
The island 'O2s' were named, starting in 1928, and from 1932 their bunkers were modified to give greater coal capacity. No. W24 *Calbourne* with extended bunker is outside Ryde Works, circa 1933, with the foreman painter standing beside his handiwork. *Wight/Locomotive Society/A.B. McLeod Collection*

After the war, Bulleid malachite green livery was applied to most of the Island locomotives. No. W24 had received this by the time she was photographed at Ryde shed on 1st June 1947. *K.O'B. Nichols*



Right: From 1949 the mainland orthodoxy of lined black was applied, though unlike all other Southern locomotives those on the Island were not renumbered. With the first pattern of BR crest, *Calbourne* is shown at Cowes on 14th September 1953. J.H. Aston

Below: In due course the second pattern of BR crest was applied to the locomotives. No. W24 climbs away from Ryde with a train for Ventnor, circa 1960.
Mike Esau



In Preservation

At the end of steam operation on the Isle of Wight, a number of prospective preservation schemes existed, ranging from 'Vectrail', which proposed a Ryde-Newport-Cowes public service of lightweight diesel rail-cars, to static preservation of items of rolling stock at various places on the Island. The most attractive single item for preservation was No. W24, an engine which had a good reputation in service, had remained in use to the end, and was considered in the best condition among the engines surviving. Besides which the other engine used on the final engineers' trains, No. W31, had a Drummond boiler, while No. W24 retained an authentic Adams boiler.

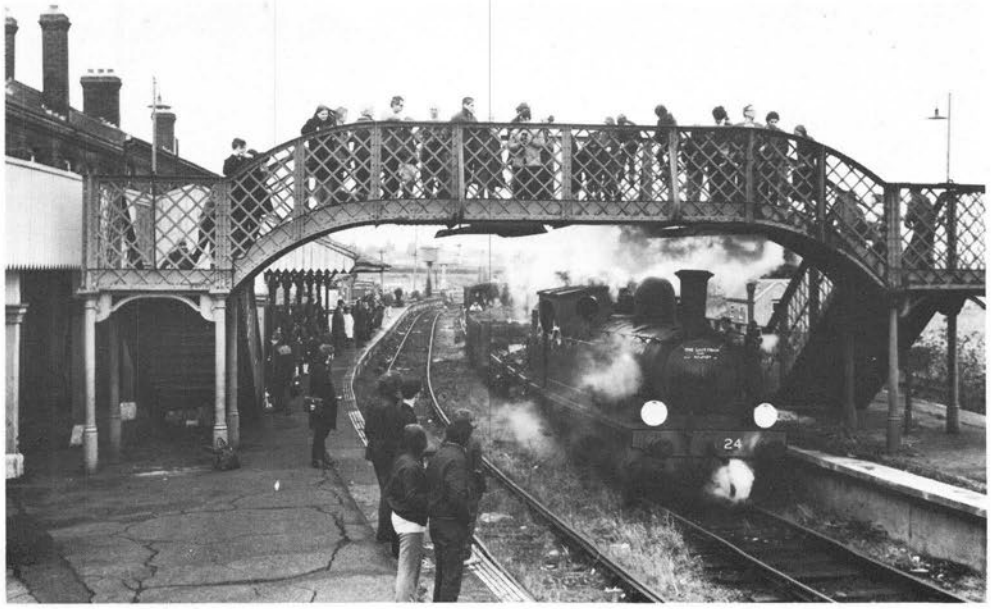
The Wight Locomotive Society was formed in 1966, and had its origins in the abortive scheme to establish a preserved steam line at Westerham. The Society bought No. W24 on 19th May 1967 for £900, with the aid of a large anonymous donation, after a previous attempt at private preservation of this engine had fallen through. At this point the engine remained in Ryde yard, while the rest of the stock for preservation was being collected at Newport; unfortunately the physical rail link between the two places had been severed at Smallbrook Junction. Restoration work began on the engine at Ryde, while first attempts to move her to Newport (including possible involvement of Royal Engineers with a tank transporter) were thwarted. Finally, advantage was taken of the rare presence on the island of a suitable transporter, onto which No. W24 was loaded at Ryde on 15th August 1969; the engine was then unloaded at Newport the following day.

Restoration work continued at Newport, and it had been decided that the engine would be restored in Southern Railway malachite green; a BR condition of sale had been that the engine should not be restored in a BR livery, but it was not until 1972 that the malachite green repaint was complete. The railway preservation position on the Island remained uncertain while the Vectrail scheme was trying to establish itself, but following the failure of Vectrail in September 1970, the Wight Locomotive Society decided to concentrate their efforts on the section of the Ryde-Newport line between Havenstreet and Wootton. No. W24 was steamed for the first time in preservation during November 1970, at first only moving within Newport station limits; but then the engine moved the whole of the Society's stock to Havenstreet in four trains on 24th January 1971, only just before scrapping operations started on the other sections of the railway.

Regular steam trains were run between Havenstreet and Wootton through 1971 and 1972, and No. W24 was in charge of virtually all traffic, being the only engine available with the appropriate Westinghouse brake control equipment. By the end of the 1972 season she was in a very run-down condition and had to be taken out of service for a major overhaul. This overhaul occupied almost three years, and was carried out entirely in the open with the help and advice of former Ryde Works staff. As reassembly progressed, the engine was turned on 21st June 1974 to face Newport, as this was the direction in which these engines had normally operated. No. W24 was finally steamed again in August 1975, during the week of celebrations of the centenary of the Ryde-Newport line. She returned to traffic in December 1975, but problems with leaking boiler tubes meant she did not properly enter service until October 1976. She was then in regular use in the seasons from 1977 to 1980, running over 1000 miles each year, and the mainstay of the line.

In the 1981 season the heavy reliance on No. W24 was at last reduced. Two ex-LBSCR 'Terriers', both former Isle of Wight engines, returned to the Island during the 1970s. No. W11 was back on the Island in 1973, and at Havenstreet in 1974, but required extensive work; No. W8, however, returned in 1979 and re-entered traffic in June 1981. From this point No. W8, and the saddle-tank No. W37, became the most-used engines, as they used considerably less coal than No. W24, which now became a 'bank holidays' only engine, being used mainly at times of peak traffic.

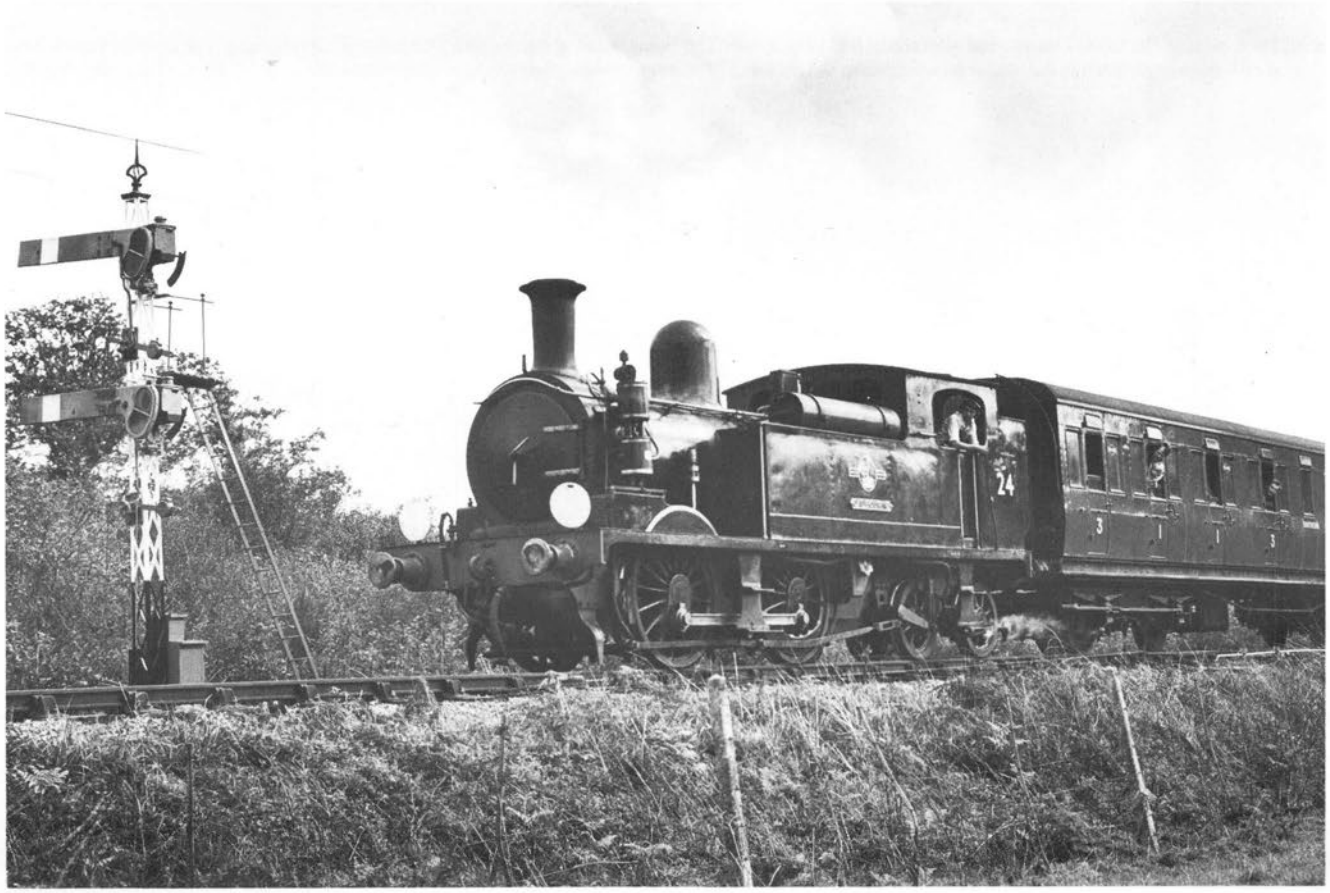
No. W24 received firebox repairs in early 1983, and returned to traffic in August. Needing a repaint, she was given an interim livery of BR unlined black, as she had carried in her last two years of BR service. She ran in this form for the rest of 1983, and was then withdrawn from service for a major overhaul which this time, thankfully, could be carried out under cover. The engine was steamed for the first time after overhaul on 5th August 1985, and returned to service later that month.



No. W24 was steamed for the first time in preservation at Newport in November 1970 and on 24th January 1971 she had to move all the Wight Locomotive Society's stock to Havenstreet, which was to become the Society's base. The locomotive is leaving Newport with the second of the four trains.
Iain Whitlam/Wight Locomotive Society

Restored to malachite green and turned to face Newport, *Calbourne* proceeds through the countryside with typical stock on 29th June 1980.
Mike Esau

Needing an interim repaint before being withdrawn for a further major overhaul, No. W24 was turned out in BR unlined black in 1983, in the manner of her final BR years. Some care went into making this an authentic repaint, and only the nameplate, set at Southern rather than BR height, gives the game away; 18th September 1983.
Mike Esau



All the splendour of Adams's final, classic, express passenger designs is evident in No. 563, seen at Nine Elms in March 1893; this is clearly the work of an artist-engineer. The locomotive is in original condition with brass beading on the splashers, piston tail rods and separate small splashers on the bogie wheels. *J.B.N. Ashford/Collection of the late George Kerley*

By around 1900 most of the usual Drummond alterations had been made. The brass beading is gone and Drummond's livery, lined rather than edged, has been applied; coal rails have been fitted to the tender and the piston tail rods and front bogie wheel splashers have been removed. *F. Burtt Collection, NRM, York*

'T3' class No. 563

Though Adams adopted the use of inside cylinders in his later designs for secondary passenger and mixed traffic work, he retained the outside cylinder 4-4-0 layout for all his express passenger locomotives. In his earlier years on the LSWR he produced the '380' class mixed traffic 4-4-0s, and then the '135' class, '445' class and '460' class express 4-4-0s. The express locomotives followed the LSWR pattern of using larger driving wheel sizes for London–Salisbury and London–Bournemouth workings than for those on the more steeply graded sections like the Salisbury–Exeter line.

The earlier Adams 4-4-0s gave satisfaction in service, but by the late 1880s the introduction of bogie carriage stock led to an increase in the weight of express passenger trains, which meant that more powerful locomotives were needed. This led Adams to produce his last and most celebrated series of 4-4-0 designs. These four designs, the 'X2', 'T3', 'T6' and 'X6' classes, were very similar and are always grouped together, usually being regarded as Adams's aesthetic masterpieces. His earlier 4-4-0 designs for the LSWR had external sandboxes on the front driving wheel splashers, and large rectangular lower panels in the cabsides, instead of rear splashers, all of which broke up the flow of the engines' lines. In the 'T3s', and related classes, a neater arrangement was used, the curve of the front and rear splashers being unbroken until merging with the front of the cab. The first and third of these four designs had 7ft. 1in. driving wheels, and the other two had 6ft. 7in. ones. In his adherence to outside cylinders on all these 4-4-0 types, Adams was exceptional, as most contemporary builders of 4-4-0s were using inside cylinders.

The first of these classes, the twenty 'X2s' with 7ft. 1in. driving wheels, Nos. 577-596, appeared in 1890-92. Ten more 'X2s' were authorised in January 1890, but in June 1890 this was changed to an order for ten similar locomotives but with 6ft. 7in. driving wheels, thus introducing the 'T3' class; at the same time the order was increased to twenty 'T3s', Nos. 557-576, and these all appeared in 1892-93. No. 563 was completed in March 1893 and was initially allocated to Nine Elms. Early changes to the 'T3s' were the removal of piston tail rods, and the fitting of Drummond chimneys (probably in November 1906 in No. 563's case).

During the 1890s the 'T3s' and related classes were used on the principal express workings, and they acquired a fine reputation for efficiency of operation. But they were displaced from the best express workings by Drummond 4-4-0s around the turn of the century, and they moved rather out of the spotlight, with many of them working west of Salisbury; No. 563 however, was an exception, spending most of her years based at Eastleigh or at Guildford. She was transferred to Guildford about 1905, and then to Eastleigh about 1910, working from there for several years, and acquiring the lined dark green livery of the Southern Railway, and the 'E' prefix to the number, in March 1924.

The Adams 4-4-0s of his earlier designs, the '380', '135', '445' and '460' classes, had all gone by the end of the 1920s, and in 1930 withdrawals of his later designs of 4-4-0, including the 'T3' class, began. By this time these locomotives were mostly employed on light work in country districts, though a few were used on the Waterloo–Basingstoke 'slows'. No. E563 moved to Guildford again in about 1927, but was transferred back to Eastleigh by mid 1933, having lost the 'E' prefix in February 1933 to become No. 563 again. The locomotive moved back to Guildford again in March 1935, and in August 1935 went into Eastleigh Works for general overhaul, even though many of the class had been withdrawn by this time; on emerging the following month No. 563 had been completely repainted, with smaller numerals than usual on the tender sides. She was transferred to Salisbury at this point, where she was kept highly polished and where she remained, working as station pilot or on Bournemouth 'slows', until being transferred again to Eastleigh in February 1938. By this time the Adams 4-4-0s were rarely used on anything other than slow passenger trains. The 'T3' class was by now down to two survivors, Nos. 563 and 571, and the other related 4-4-0 classes were also heavily depleted; one 'X2', two 'T6s' and five X6s' were the only others still in service.

No. 563 was stored in autumn 1938 and, apart from use during the Christmas period, was not steamed again before being withdrawn in March 1939, but the locomotive was not cut up. Following the start of the war in September 1939 No. 563, together with 'X2' No. 586 and 'X6' No. 658, was reinstated. No. 563 was given a further general overhaul and returned to traffic

Dimensions

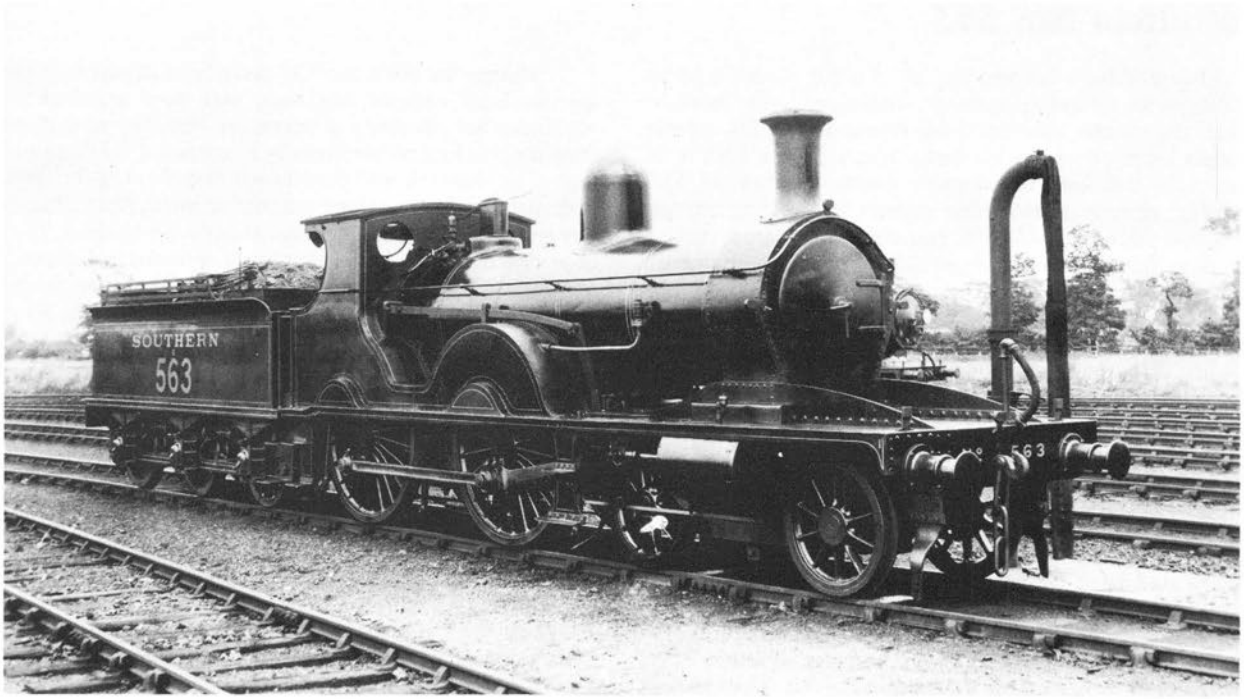
Wheel arrangement	4-4-0	Weight in working order	81 tons 15 cwt
Cylinders (2) bore	19″	Grate area	19¾ sq.ft
stroke	26″	Total heating surface	1315.8 sq.ft
Driving wheel diameter	6′ 7″	Boiler tubes	220 x 1¾″
Boiler pressure	175 lb/sq.in	Water capacity	3300 gallons
Tractive effort	17,673 lbs	Coal capacity	5 tons
Wheelbase	44′ 9¼″	Stephenson link motion, slide valves, lever reverse, right hand drive	
Overall length	54′ 2¼″		
Overall height	13′ 2¼″		

Service History

Type introduced ..... December 1892

No. 563

Built by ... LSWR Nine Elms Order No. T3/7
Cost ..... £2366 Service date ..... March 1893
Numbers:- LSWR - 563 (3/93)
SR - E563 (3/24), 563 (2/33)
Withdrawn .... August 1945 Final mileage 1,571,150



In March 1924 the locomotive became No. E563 in Southern Railway stock. In Southern lined green livery the locomotive rests at Feltham on 26th July 1924; the Drummond chimney, long since fitted, is the only significant change. *H.C. Casserley*

in December 1939 repainted in unlined dark green and with cabside numerals. She was then transferred to Basingstoke, and was employed during the war years mostly on van trains and similar workings, occasionally appearing at Waterloo. But No. 563's reprieve only lasted for the duration of the war, and she was withdrawn in August 1945 and dumped in Eastleigh yard, along with a large number of other withdrawn locomotives.

Around the start of 1948 the Southern began to clear Eastleigh yard, and the withdrawn locomotives were taken, usually about five or six at a time, to be stored at Kimbridge Junction, near Romsey, No. 563 making this journey on 15th January 1948. Soon a quite remarkable collection of withdrawn locomotives had built up at Kimbridge Junction, but eventually all except No. 563 were cut up.

By 1935, when this photograph was taken at Eastleigh, the locomotive was plain No. 563 again and had been repainted with smaller numerals (of LBSCR origin) on the tender side and rear. *C.R.L. Coles*

In Preservation

The authorities decided that the centenary of Waterloo station in 1948 was cause for a celebration, and this would include the display of some items of vintage rolling stock. Mr A.B. MacLeod, Stores Superintendent, and Mr E.A. Turbett, deputy C.M.E., were asked by the General Manager to pick a suitable Adams 4-4-0; Mr MacLeod consulted with Mr S.C. Townroe, Running Superintendent, Eastleigh, examined the maintenance records of the locomotives listed as awaiting scrap, and looked at those dumped at Eastleigh and at Kimbridge. He decided that No. 563 looked in fair condition, and the locomotive was moved to Eastleigh Works where no expensive repairs were found necessary. After some debate, concerning correct paint details, among the old hands in the Paint Shop, the locomotive was turned out in 1903-style Drummond lined green livery, in order to carry the LSWR coat of arms on the driving wheel splashers.

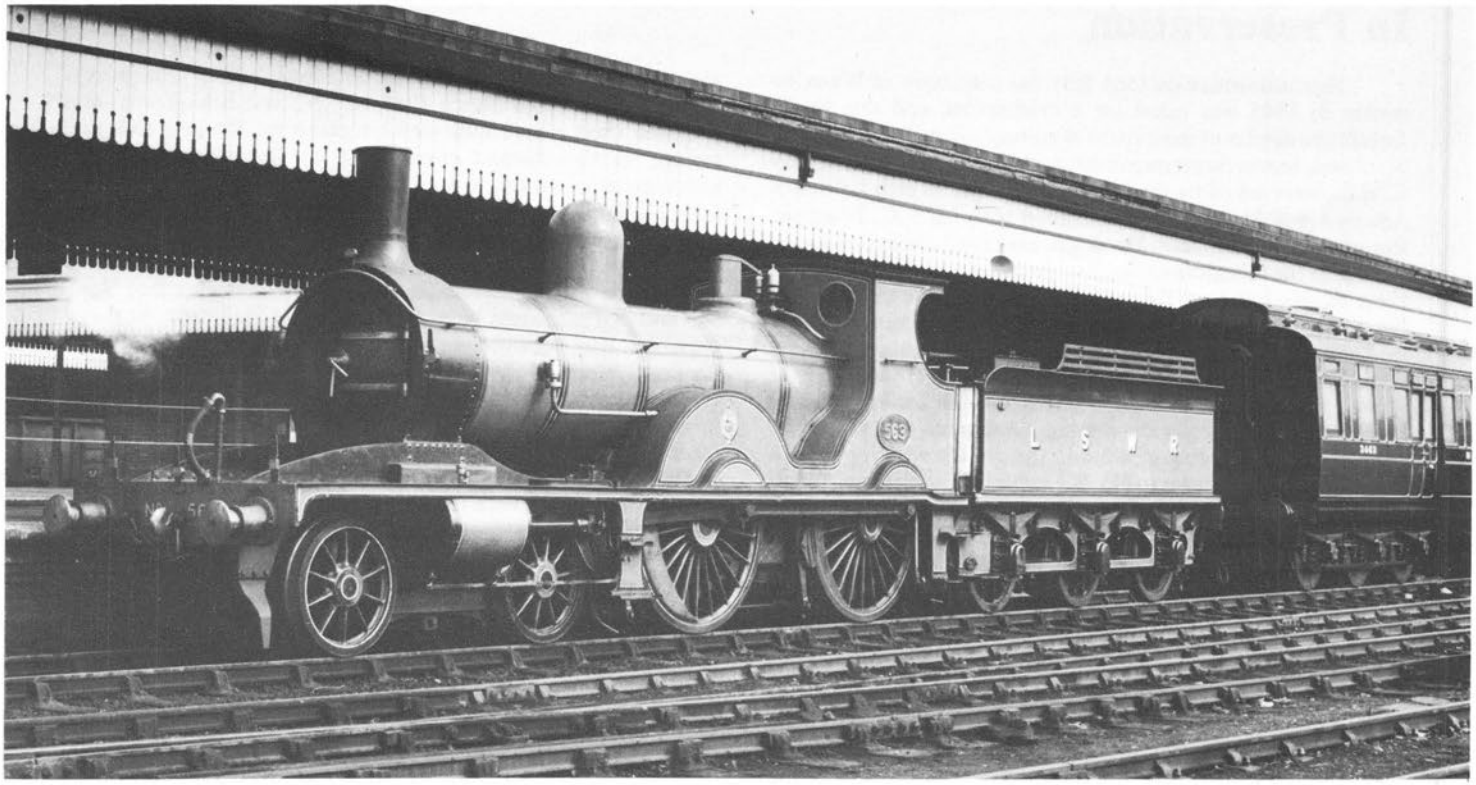
The modifications to No. 563 included fitting of an Adams stovepipe chimney, and Adams' patterns of smokebox door, whistles, couplings and ejector. The locomotive was retubed, and proceeded up to London under her own steam on 11th June 1948, with restored LSWR coach No. 6474; No. 563 had to proceed under a 25 mph speed limit and 60lbs/sq.in max boiler pressure, owing to a weak firebox. The celebratory exhibition was held at Waterloo station from 14th-25th June and featured No. 563 and the restored coach, together with the 'Terrier' *Boxhill* and the 'West Country' class pacific No. 34017 *Ilfracombe*.

After the Waterloo celebrations No. 563, with *Boxhill* and the coach, was stored in Farnham electric carriage shed for several years. The two locomotives then reappeared on display at a Works Open Day at Eastleigh in August 1954, and became a regular attraction, reappearing at the 1955 and 1957 Open Days. By this time some concern was felt that the condition of the locomotives might be deteriorating, as the storage conditions were less than ideal. They were obviously prime candidates for a major transport museum, but such a museum was still at the planning stage. So after appearances at a 'Transport Treasures Mobile Exhibition' at Guildford, at Hove, and at Salisbury during February and March 1958, No. 563 and *Boxhill* went to Brighton shed, where they were prepared for the long trek to storage in the disused roundhouse at Tweedmouth. The locomotives left on this trek on 27th April 1958, but did not stay in this unfamiliar territory very long as they left Tweedmouth for Eastleigh once more on 28th July 1959.

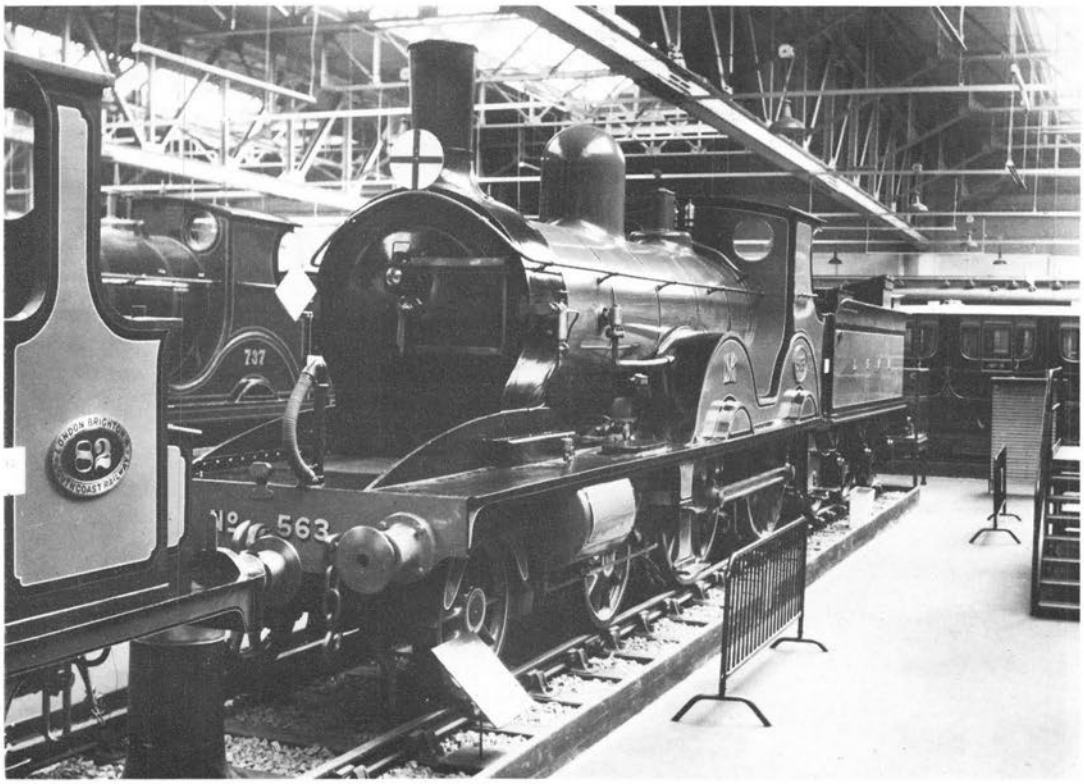
By 1960 the collection at the British Transport Museum at Clapham was being assembled, and it was announced that No. 563 and *Boxhill* would be overhauled ready for display at this museum. The locomotives made another appearance at an Eastleigh Works Open Day in August 1960, and then No. 563 entered Eastleigh Works for overhaul. The locomotive emerged in undercoat pink and was moved to Southampton on 25th January 1961, for transport to London; unfortunately, owing to a landslip at Hook, this journey had to be made on a Pickfords transporter. At Clapham the top coats of paint were applied, and No. 563 was now restored to original livery, with the light green edged with black and brass beading round the splashers. By this point the locomotive had been returned to original Adams condition.

The 'T3' remained at Clapham until the Museum closed, and then, in preparation for the opening of the National Railway Museum, she was towed to York in April 1975. On this journey No. 563 made up a train with LNER A4 No. 4468 *Mallard* and, as always, *Boxhill*; like these other two locomotives, the old Adams 4-4-0 has since remained regularly on display in the main hall of the York Museum. During the years that the 'T3' has been on display at York, several of the other preserved LSWR locomotives have returned to steam or have retired from steaming, they have moved to fresh locations (in or out of public view), or have been repainted in fresh liveries. No. 563 has ensured that one LSWR locomotive, at least, has remained constantly on view and in original livery.

Dumped – No. 563 was repainted in unlined dark green livery in 1939 and served through the war until withdrawn in August 1945. The discarded locomotive sits in Eastleigh yard on 22nd September 1945. *H.C. Casserley*



No. 563's restoration in 1948 was to 1903-period Drummond style. The stovepipe chimney has been restored and Drummond livery applied. The locomotive (with a Midland Railway dining car) was on display at Salisbury in February 1958. *Ivo Peters*



The final restoration in 1961 was to Adams condition and several original items were restored. These include the brass beading and piston tail rods and the coal rails have gone from the tender. No. 563 sits in state in the Clapham Transport Museum during the 1960s. *C.R.L. Coles*

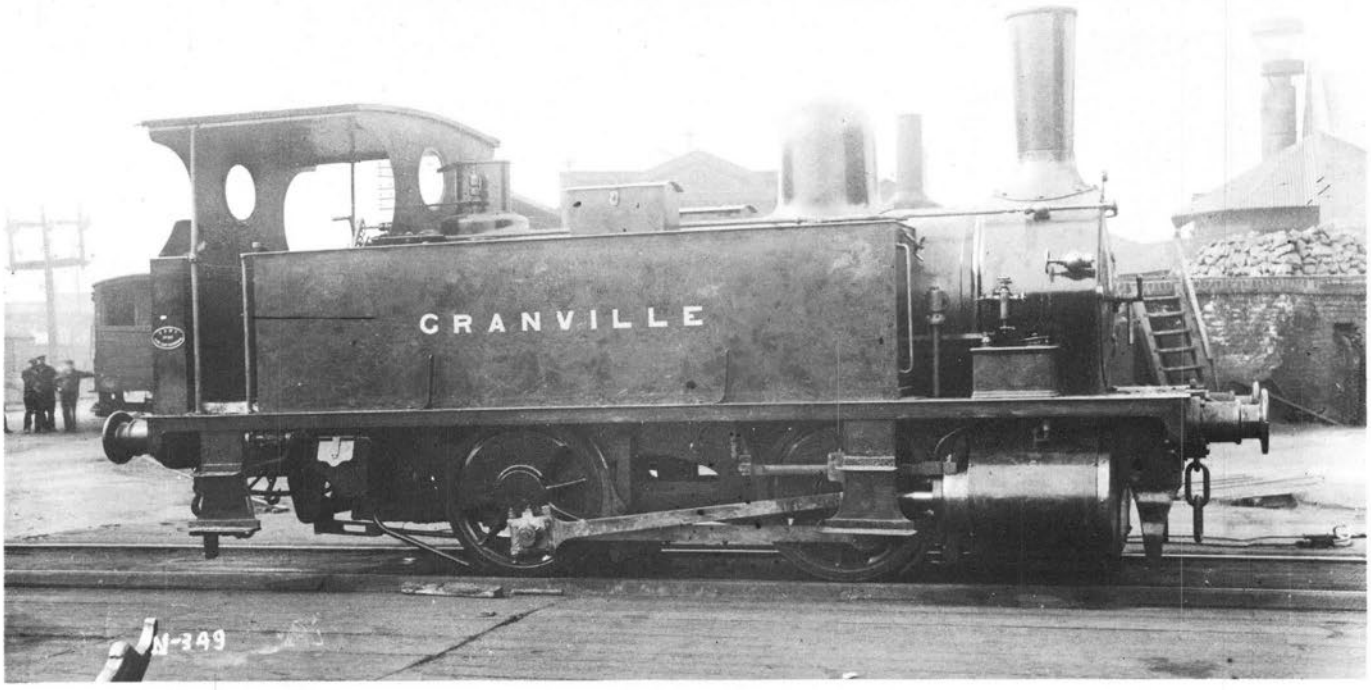
'B4' class Nos. 96 *Normandy* and 102 *Granville*

Among the surviving LSWR locomotive types, the 'B4' class is the only one which definitely does not reflect the main stream of development of LSWR locomotives. By the 1890s the major railway companies rarely built 0-4-0 tank engines, and the 'B4s' were just about the only small, outside cylinder shunting tank engines built by the LSWR, certainly bearing little relation to any other Adams type. They were much larger than most 0-4-0 tanks of their day, which were usually of small industrial specification. The building of '20 small Tram Engines' by the LSWR was authorised in August 1890, and the first ten, Nos. 85-94, were built in 1891 and 1892. The design was distinctive, with the large horizontal outside cylinders, and the 7ft. wheelbase contrasting with an overall length of 24ft. 10½ins.

In November 1892 the LSWR gained control of Southampton Docks, and set about developing this as a major port. This soon led to a need for more powerful shunting engines in the Docks. The second batch of ten 'B4' tanks were built at Nine Elms in the latter months of 1893, and the first two were built specifically for Docks use and sent there in November 1893 as *Jersey* and *Guernsey*. As soon as the Docks authorities received these two, they asked for two more of the same type. The other eight of the batch, Nos. 95-100, 102 and 103, had been intended for ordinary LSWR service, but following the request for two more Dock shunters, two newly completed engines, Nos. 96 and 97, were diverted to Docks use. They were completed in November 1893 and entered service modified, as *Jersey* and *Guernsey* had been, with cutaway front and rear cabsheets (for better visibility from the footplate); they were painted dark green, were named *Normandy* and *Brittany* respectively and were despatched in December 1893 for Docks service. The other six engines of the batch entered normal LSWR service; No. 102 did so in December 1893 and was initially based at Northam.

The four 'B4s', twice as powerful as any of the previous Southampton Docks shunters, were evidently a success. Under LSWR control the Docks continued to develop, and in December 1895 the Docks Superintendent, 'called attention to the necessity for providing additional locomotive power before the heavy work of the next season commences'. As a result it was agreed that four more 'B4s' would be transferred to the Docks; these, as before, received cutaway cabs and were painted dark green. The engines chosen were Nos. 86, 93, 95, and 102, which became *Havre, St. Malo, Honfleur* and *Granville* respectively, and were transferred to Docks service in the early months of 1896; *Granville* was transferred in April 1896. Eventually twelve of the twenty 'B4s' were transferred to work in the Docks, and were later joined by two of the five engines of the 'K14' series, the Drummond version of the 'B4' class.

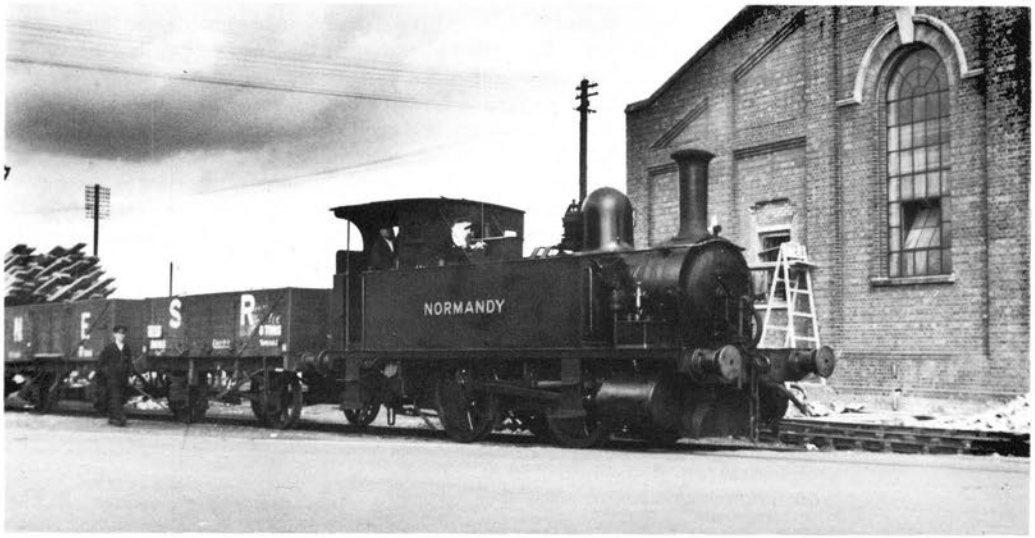
Thus by 1908 fourteen 'B4s' (including two 'K14s') were in service in Southampton Docks, and there they lived a life apart, away from the normal LSWR and Southern scene, for the next forty years. They were identified by their names, painted in large letters on their tank sides, though naming of locomotives was otherwise contrary to LSWR practice, while they bore minimal trace of their numbers, and even sometimes no trace at all. They were maintained almost entirely by the Dock and Marine Department, and were only very occasionally recorded as visiting main LSWR works. They became Southern Railway property in 1923, but showed no outward sign of the change, though from late 1933 they were overhauled at Eastleigh Works, and began to be painted black, instead of the previous dark green. The fourteen dock tanks were kept well occupied; 1934 rosters show twelve of them being required for shunting during two 8-hour shifts, six days a week, with the thirteenth engine down for boiler washout and the fourteenth under repair. Working in the Docks brought



No. 102 *Granville* photographed on 12th August 1898, soon after transfer to Southampton Docks; the cab is cut away and the number only appears on the small oval plate on the rear cab sidesheet. In original condition the locomotive would have had a full cab and brass number plates at the centre of the tank sides.

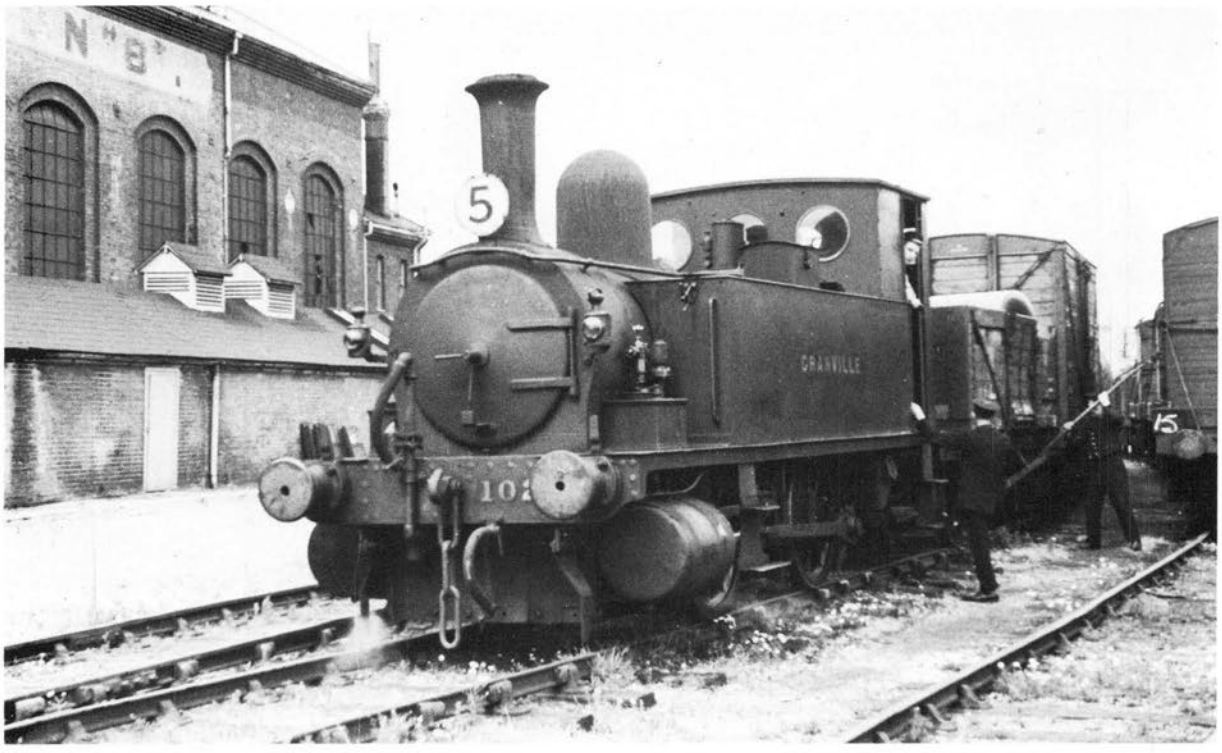
J.B.N. Ashford/Collection of the late George Kerley

Left: This shot probably dates from around 1925. *Granville* now has a Drummond chimney and the nearside (driver's side) cab cutaway has been filled in. *Lens of Sutton*



Left: No. 96 *Normandy* at work in the Southampton Docks area, 4th September 1937. Both front cab cutaways have now been filled in, though the back of the cab remains cut away and a filtrator has been fitted behind the dome. *S.W. Baker*

Below: Granville, uniquely among the 'B4s', received a complete new front cab sheet with three circular windows. The locomotive is shunting at Southampton on 5th July 1947; by now filling pieces have been fitted to the sides and back of the cab. *S.W. Baker*



Dimensions

Wheel arrangement	0-4-0
Cylinders (2) - bore	16″
stroke	22″
Driving wheel diameter	3′ 9¾″
Boiler pressure	140 lb/sq.in
Tractive effort	14,649 lbs
Wheelbase	7′ 0″
Overall length	24′ 10½″
Overall height	12′ 0″
Weight in working order	33 tons 9 cwt
Grate area	10.78 sq.ft
Total heating surface	823 sq.ft
Boiler tubes	152 x 1¾″
Water capacity	600 gallons
Coal capacity	½ ton

Stephenson link motion, slide valves, lever reverse, right hand drive

Service Histories

Type introduced ..... October 1891

No. 96

Built by ... LSWR Nine Elms Order No..... D6/4
Cost..... £1141 Service date .. November 1893
Numbers:- LSWR - 96 (11/93)
SR - 96 (theoretically E96 at first, but never carried this number)
BR - 30096 (12/50)
Withdrawn .... October 1963 Final mileage 483,917

No. 102

Built by ... LSWR Nine Elms Order No..... D6/9
Cost..... £1141 Service date .. December 1893
Numbers:- LSWR - 102 (12/93)
SR - 102 (theoretically E102 at first, but never carried this number)
BR - 30102 (12/50)
Withdrawn .. September 1963 Final mileage .. 490,687

special hazards; in the late 1920s *Normandy* was 'arrested' when contraband was found in the engine's cab!

The Adams 'B4s' gradually lost their stovepipe chimneys over the years, receiving Drummond chimneys instead; both *Normandy* and *Granville* had received such chimneys by about 1930. One modification to the fourteen engines was the fitting of a linseed filtrator, from about 1927, to combat the formation of scale, as a result of impurities in their water supply; the linseed caused the impurities to form an easily removeable sludge. The filtrator was a prominent fitting behind the dome on the Adams boiler; these filtrators were removed starting in 1941.

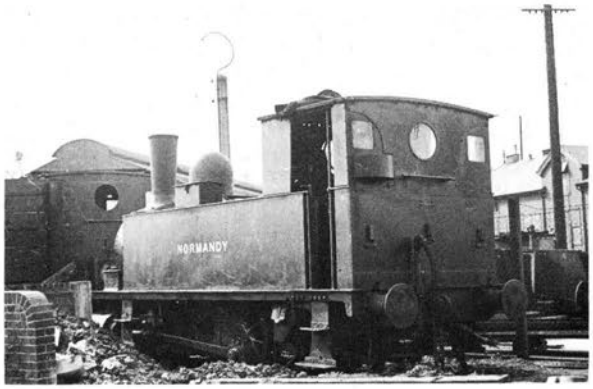
The first eight 'B4s' to enter Docks service, including both *Normandy* and *Granville*, had modified cabs, with a single large circular window at the centre of the front and back cab sheets, and large curved sections cut away at each side. These were gradually modified over the years; probably because the increased visibility they gave was found unnecessary, and because the cutaway cab provided a very exposed place of work. Starting around 1930, the cutaways in the front cab sheet were filled in, at first only on the driver's side, and then on both sides; the added sections had small square windows which now flanked the single circular central window. Later, the same treatment was applied to the back cabsheet, and then cab sidesheets were added, thus giving much the same degree of shelter as the ordinary Adams and Drummond cabs. In December 1936 *Granville*, uniquely, received a new front cabsheet with three large circular windows, while a change to *Normandy* in September 1940 was the replacement of her Drummond chimney by an Adams stovepipe.

The war disturbed the regular workings of the 'B4s' in the Docks, and they were sometimes seen working elsewhere, *Granville* appearing at Poole late in 1941. The return to peacetime working in 1945 was, however, almost the end of the 'B4' era in Southampton Docks. The Southern Railway had decided to replace them with ex-U.S. Army Transportation Corps 0-6-0 tanks, which could be purchased relatively cheaply as war surplus. The fourteen USA tanks, Nos. 61-74, entered service in the Docks during 1947, and so other work had to be found for the 'B4s'.

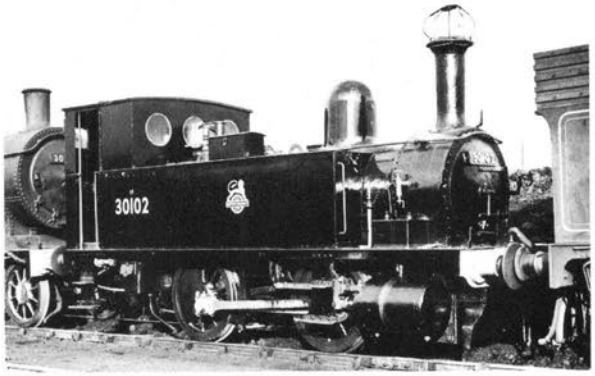
While the fourteen 'B4s' had been in Southampton Docks, the Southern's remaining eleven 'B4s' had performed a fairly constant set of duties. Able to shift almost anything at shunting speed, they were particularly valued for their ability to go round the sharp curves that existed in certain sidings. They had usually been shared between three sheds, Plymouth (for use in Devonport Docks), Bournemouth (for Poole Quay) and Eastleigh (for Winchester yard and the Southampton Terminus area). Of the 'B4s' displaced from Southampton Docks, some were sent to augment those at these three sheds, some were tried on new tasks at unfamiliar depots, and some remained out of use at Southampton. *Normandy* and *Granville* were in the first category and were both transferred to Eastleigh in January 1948. In March 1948 *Normandy* finally lost her Adams stovepipe chimney and regained the Drummond pattern.

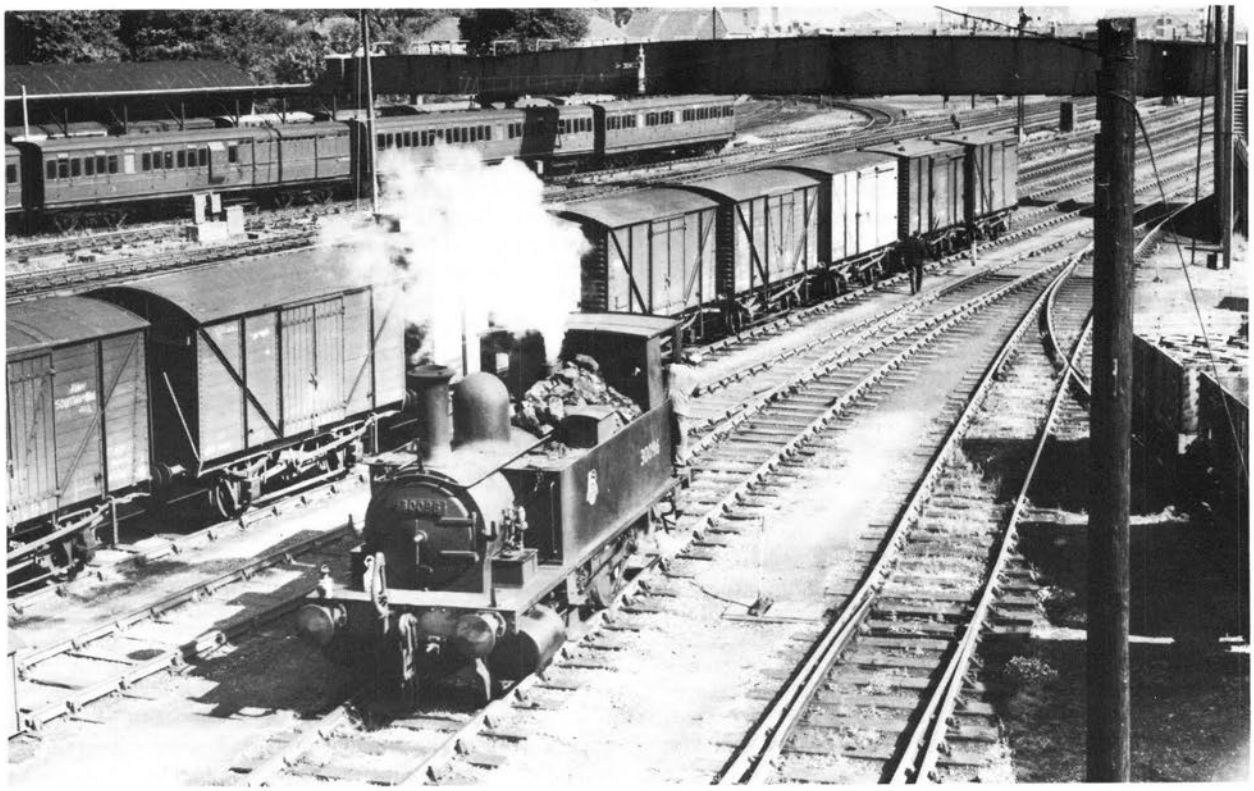
During 1949 the Southern Region concluded they would only need eleven 'B4s' as previously, and so the other fourteen were withdrawn. However, only three were scrapped, the other eleven being sold out of service for further industrial use; the type clearly remained an attractive property for this sort of work. The eleven 'B4s' retained by the Southern Region included five former Southampton Docks shunters, *Normandy* and *Granville* among them. During 1949 both these engines were transferred away from Eastleigh; *Granville* was sent to Plymouth in April 1949, to replace sister engine No. 103, sold out of service, and soon received the primitive spark arrester on her chimney, that was a regular characteristic of Plymouth-based 'B4s'; she stayed at Plymouth for the next nine years. *Normandy*, on the other hand, after spending much of the summer shunting at Redbridge sleeper depot, was transferred to Ashford in August 1949, for shunting at Chislet colliery, but moved back to Eastleigh in September 1950, and was to remain there for the rest of her BR career. December 1950 found both these 'B4s' receiving overhauls at Eastleigh, and both of them now lost their Docks names and were renumbered, as Nos. 30096 and 30102 in BR stock.

The eleven 'B4s', to which the Southern Region's complement had been reduced in 1949, all remained in service until 1957, and continued to potter about on their specialist



Above left: A unique alteration to *Normandy* was the stovepipe chimney which was fitted in 1940. Southampton Docks, 21st September 1947, very near the end of the 'B4' era there. *H.C. Casserley. Above right:* In 1948 *Normandy* reverted to the more familiar Drummond chimney, but still retained the name. Eastleigh, 18th August 1949. *E.J. Jones. Below left:* BR No. 30102 (ex *Granville*) shines in ex-works condition after her final BR overhaul, with the first pattern of BR crest; Eastleigh, 16th February 1957. The three front cab windows are again clearly evident and, being based at Plymouth Friary, the locomotive has a primitive spark arrester on the chimney. *Les Elsey. Below right:* No. 30096 (ex *Normandy*) eventually received the later pattern of BR crest; Eastleigh, 17th September 1959. *J.H. Aston*



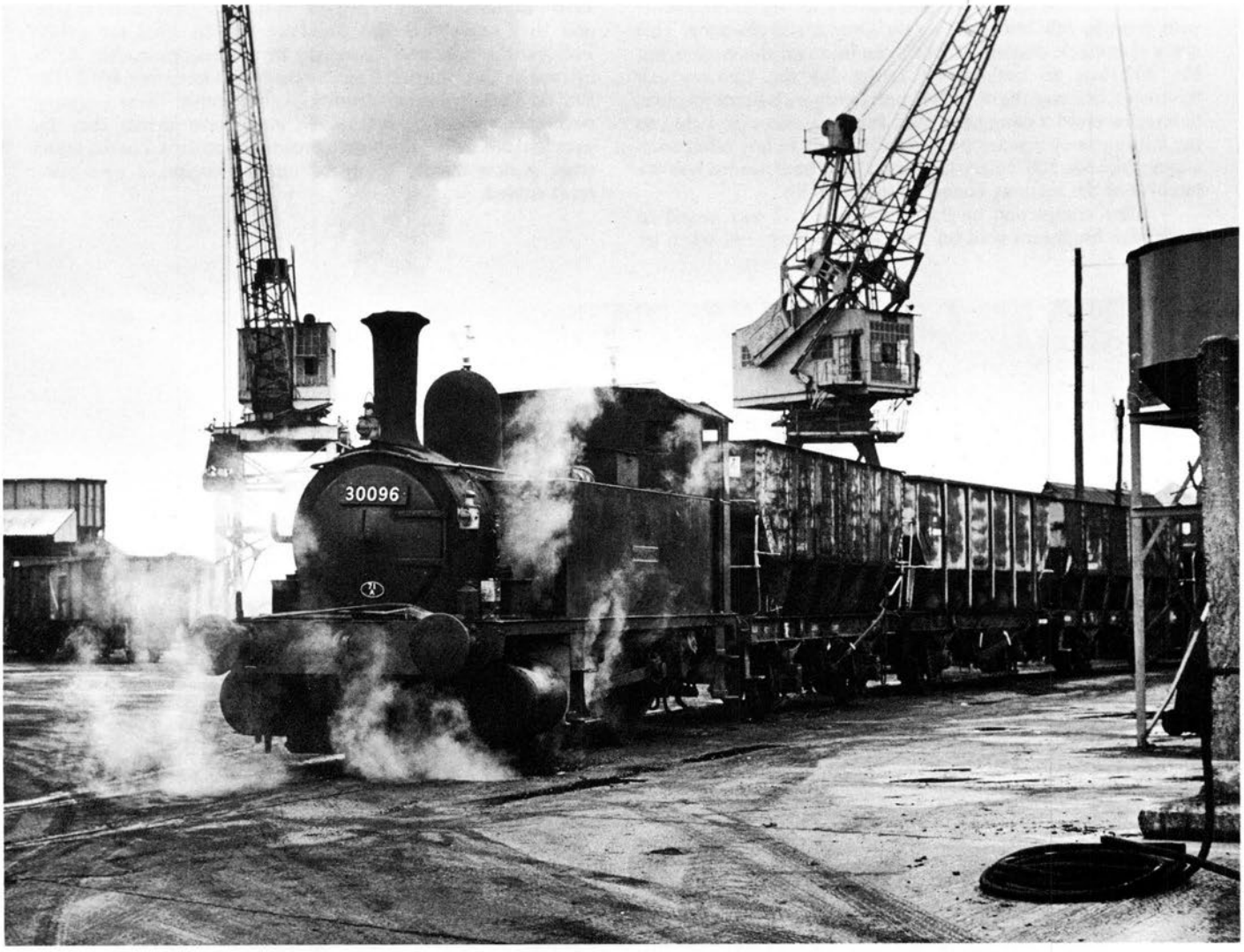


'B4' in the landscape; for them this usually meant sidings and wagons, among which No. 30096 is moving, at Southampton Terminus, on 28th June 1957, with some vintage carriages visible in the background. *R.C. Riley*

shunting tasks. Then withdrawals started again, and were bound to continue, as one by one the established 'B4' duties disappeared. By February 1958, when No. 30102 became Western Region property on the transfer of ownership of Plymouth (Friary) shed, she was the only 'B4' still on the active list there; the other two, Nos. 30088 and 30089, were in store. But in July 1958 all three 'B4s' were finally dispatched from Plymouth, back to the Southern Region on transfer to Eastleigh where No. 30102 was, in turn, placed in store. Eastleigh now had a surplus of these engines, but withdrawals continued and in December 1958 No. 30102 was transferred to Bournemouth, to replace the withdrawn No. 30087 and share the Poole Quay duties with No. 30093 (ex *St. Malo*). However, in May 1960 the Poole operation came to an end, and No. 30102, having been the last active 'B4' at Plymouth, now became the last 'B4' to leave Bournemouth, being transferred back to Eastleigh.

By this time only three 'B4s' remained in service; Nos. 30096 and 30102, at Eastleigh, shared the duty of shunting the yard at Winchester, while No. 30089 (ex *Trouville*) was Guildford shed pilot. Around the turn of 1960-61, No. 30096 was mostly handling the Winchester yard work, while No. 30102 was quite regularly to be found virtually back in her old haunts, shunting at Southampton Old Docks. The Winchester duty continued until autumn 1963, when a diesel shunter arrived, and the last 'B4' duty came to an end. No. 30102 was withdrawn in September 1963, and No. 30096 followed in October.

For No. 30096, the 'B4' story repeated itself; as had happened with most of the 1948-49 withdrawals, the engine was not scrapped but was sold for further industrial use as a shunter. In this case the buyer was Corralls Ltd., coal merchants, who named No. 30096 *Corrall Queen* and employed her shunting at Dibles Wharf, Southampton. Here she received further modifications to the cab, which was cut back at the top corners, presumably to overcome clearance problems in her new working location.



After withdrawal by BR, No. 30096 was sold to Corralls Ltd. for further use in the Southampton Docks area, at Dibles Wharf. No. 30096 received the name *Corrall Queen*, with nameplates on the tank sides and some modifications to the cab. *John Bird*

In Preservation

In some respects the 'B4' class was a very suitable type for preservation; they were small engines, they could go almost anywhere, and they had proved their usefulness in the industrial shunting scene. On the other hand, they were not suitable for hauling passenger trains, and had only done this very rarely during their LSWR, Southern and BR careers; once restored, a 'B4' was likely to be only useable as a shed or yard pilot, and would thus earn very little revenue for a steam railway.

After withdrawal No. 30102 remained at Eastleigh in 1964. At this time Butlins Holiday Camps were buying steam locomotives for display as static exhibits. Each camp was to have a pair of locomotives, a large LMS express engine and, for contrast, a very small engine. Ex LBSCR 'Terriers' were preferred as the small engines, but the demand for 'Terriers' for preservation exceeded the supply, so instead of their fourth 'Terrier' Butlins were sold No. 30102, in June 1964.

The 'B4' entered Eastleigh Works in July 1964 and was restored to LSWR dark green goods livery, as No. 102 *Granville* with cutaway cab, but retaining the Drummond chimney. This was a reasonable attempt at 1920s condition for this engine, but No. 102 was an unfortunate choice for the cutaway cab treatment. She was the only 'B4', previously with a cutaway cab, to have received a completely new front cab sheet (in 1936), so the cutting away process was literally that. On any other such engine (like No. 30096), all that would have been needed was the removal of the sections bolted on in the 1930s.

After completion of this work, No. 102 was towed to Redbridge Engineers yard on 7th October 1964, and taken by road to Butlins camp at Skegness, where she was displayed with ex-LMS express locomotive No. 6100 *Royal Scot*. No. 102 remained at Skegness until she was loaned to the Bressingham Steam Museum, Norfolk, and was moved there by road in March 1971. She remained in store in the shed at Bressingham, and by 1979 was looking decidedly delapidated. So she was then restored to exhibition state, and received a complete repaint. This perpetuated the LSWR dark green livery and the name *Granville* on the tank sides. However, the width of the lining bands is of doubtful authenticity, and the name has certainly been painted too high on the tanks. *Granville* remains on display at Bressingham, though not in a very favoured position, and is believed to be in reasonable mechanical order; but there are no plans to return her to working order.

No. 30096 remained at work as *Corrall Queen* at Dibles Wharf, Southampton during the middle and late 1960s, but was replaced by a diesel in 1969 and was placed in reserve. During 1970 the Bulleid Society negotiated the purchase of the engine, and they completed this purchase late in 1972 for £1000. Following a handover ceremony at Southampton, No. 30096 arrived at the Bluebell Railway on 19th December 1972. The Bulleid Society's other commitments notably 'West Country' pacific No. 21C123 *Blackmoor Vale*, have meant that the overhaul of the 'B4' has been a protracted process, but the repair stage is now largely complete and the engine is now being reassembled.

No. 30096 was purchased by the Bulleid Society and was moved to the Bluebell Railway on 19th December 1972. The locomotive is seen arriving at Sheffield Park on the low loader. *David Idle*

Dugald Drummond (1840-1912)
Locomotive Superintendent 1895-1906
Chief Mechanical Engineer 1906-12

Unlike both Beattie and Adams, Dugald Drummond was a railway engineer from the start, and came from a railway family. Drummond was most profoundly influenced in locomotive design by William Stroudley, under whom he worked at Lochgorm Works at Inverness on the Highland Railway, and at Brighton on the LBSCR. Drummond's first appointments as locomotive superintendent were on the North British Railway at Cowlairs (1875-82) and the Caledonian Railway at St. Rollox (1882-90). After a period of consultancy and attempting to build up his own company, Drummond took the job of Locomotive Superintendent on the LSWR, at Nine Elms, in August 1895.

Most of Drummond's designs showed the Stroudley influence, and many were variations on a standard formula. This formula, adapted to perform different sorts of work, produced 4-4-0s for express work, 0-6-0s for goods, and 0-4-4 tank engines. All these were inside cylinder locomotives, usually with boilers and many other parts in common. The use of inside cylinders on express locomotives was a clear break with Adams' practice, though Drummond's earliest LSWR locomotives were little, if any, bigger than Adams' later designs.

Like Beattie, Drummond was a believer in intricate components aimed at economy and efficiency on a locomotive; these included feedwater heaters and steam driers, and many of his locomotives were fitted with firebox water tubes. His locomotives almost invariably combined elegant lines with fine proportions offset, in most cases, by lavish lining out. Most of his 4-cylinder 4-6-0s left quite a lot to be desired, but it is for his 4-4-0s and related types that he is best remembered.

Drummond died in office in 1912.

'M7' class Nos. 53 and 245

The 'M7' class was Drummond's first new design on taking office at the LSWR. The ancestry of the type can be traced back through Drummond's earlier 0-4-4 tanks for the North British Railway to the Stroudley 'D1' class tanks of the LBSCR. The first batch of 'M7s' was ordered in June 1896 and built at Nine Elms Works in the following year. The LSWR continued to build them throughout Drummond's term of office, the last ones being built at Eastleigh in 1911; 105 of them were built, making them the most numerous class the railway ever built. The 'M7s' remained (apart from one superheated engine) very little altered mechanically or in outward appearance during their long lifespan, and retained their elegant late Victorian looks into the 1960s.

No. 245 was the fourth engine of the class, and was completed at Nine Elms in March 1897. As built, No. 245 had a conical smokebox door (to accommodate Drummond's spark arresting equipment) which was replaced by a normal pattern of door in 1898; another original fitting was a Caledonian Railway style hooter, which was replaced by a more normal whistle in 1899. Some 'M7s' were at first used on express workings, but after a derailment near Tavistock in 1898 they were taken off this sort of work, and the boiler pressure was reduced from 175 to 150 lbs/sq in, as it was assumed their duties would in future be less arduous. No. 53 was the eighty eighth engine of the class, and was completed at Nine Elms in December 1905, having the reduced boiler pressure of 150 lbs/sq in from the start. Both No. 245 and No. 53 were initially based at Nine Elms, and both were London area engines up to the time of the 'Grouping' in 1923, though No. 245 was based at Guildford from 1914 to about 1919.

In the case of each other surviving pair of LSWR engines – Beattie well tanks, Adams 'B4' dock tanks and Urie 'S15s' – the pair were built in the same year, were identical as built, and worked together for a major part of their working lives – at Wadebridge, Southampton and Feltham respectively. Of the surviving pair of 'M7s', No. 53 was built over 8½ years after No. 245, the two engines differing in several respects, and, after their early association, they only worked together for one fairly short period.

No. 245, like all the earlier 'M7s', was built with a relatively short overhang of the running plate in front of the smokebox, and with lever reverse, injector feed, and clack boxes on the side of the boiler. No. 53, by contrast, conformed to the later pattern of 'M7'; the front overhang was 15 inches longer, and the engine had steam reverse, duplex ram pump feed, and clack boxes on the bottom of the smokebox tube plate. Later, Urie replaced the ram pumps by injectors, and moved the clack boxes to the boiler side, on No. 53 and all other 'M7s' like her, so almost the only differences that remain now are that No. 245 has short front overhang and lever reverse, and No. 53 long front overhang and steam reverse.

After their brief use on express work, the 'M7' class were mainly used on suburban workings in the London area, so conforming to the LSWR's normal pattern of usage of its heavier tank engines. But they were the last class to conform in this way; from 1916 the railway introduced electrification of its London suburban services, and as this spread the class began to move away from London to provincial depots. Starting in 1912, the LSWR fitted a rather primitive form of push-and-pull apparatus, using cables and pulleys, to a number of 'M7s'; this was fitted to No. 245 in November 1925, but was removed only a few years later.

On the formation of the Southern Railway in 1923, both Nos. 53 and 245 were based at Nine Elms. No. 53 was renumbered E53 and was repainted in Southern Railway lined green livery in November 1923, being one of the first engines to receive this treatment; No. 245 similarly acquired the 'E' prefix and Southern livery in October 1925. The Southern also restored the boiler pressure of the 'M7s' to 175 lbs/sq in, No. E245 returning to this higher pressure in October 1927, and No. E53 acquiring it in March 1930. No. E53 appears to have remained

Above: Originally No. 245, like all the first batch of 'M7s', had a conical smokebox door; here, at Nine Elms, Spring 1898, this has been replaced, but otherwise the locomotive is in original condition. The Caledonian-style hooter is visible and the boiler-mounted clacks and lever reverse are clearly evident.
J.B.N. Ashford/Collection of the late George Kerley

Right: No. 51 was the first of the batch of 'M7s' that included No. 53, so this picture, taken at Nine Elms on 14th February 1906, shows No. 53's original condition. The points of difference from No. 245 *(above)* can be counted off – the longer front overhang of the frames, the duplex pump and feed-water heating pipe, alterations to livery and handrails and an extra pair of steps by the front of the side tanks.
J.B.N. Ashford/Collection of the late George Kerley

In the last years of the LSWR, 'M7' No. 53 heads a 'down' Guildford working at Esher. By this time boiler-mounted clacks have replaced the duplex pumps and the feedwater heating pipe is gone. The 'M7s' were built with three coal rails on the bunker, but this locomotive now has five.
L&GRP Collection, courtesy of David and Charles

based at Nine Elms during the 1920s, but No. E245 was recorded based at Guildford in 1925 and at Exmouth Junction in 1929.

In 1930 the Southern began to apply the LBSCR pattern of push-and-pull equipment, operated by compressed air, to the 'M7' class. Only the later pattern of 'M7' could take this equipment, as the long front overhang was needed to house the compressed air reservoir; the apparatus also featured a Westinghouse pump and operating cylinder, making push-and-pull 'M7s' easily recognisible in later years. No. E53 received this equipment in July 1930 and still retains it, making another difference from the surviving non-push-and-pull No. 245, and one which significantly affected the type of work the two engines did in their later years.

No. E245 lost the 'E' prefix to become No. 245 again in December 1931, and No. E53 similarly became plain No. 53 in June 1932; at this time No. 245 was based at Nine Elms and No. 53 at Guildford. Bournemouth shed was one of the biggest users of push-and-pull fitted 'M7s' from the 1930s onwards, so it is no surprise that No. 53 was transferred there in March 1936; and though Bournemouth normally used comparatively few non-push-and-pull 'M7s', No. 245 was also moved there in October 1937. No. 53 then went briefly to Fratton in June 1938, but returned to Bournemouth in August 1938. Now for a short period these two survivors worked together from the same depot, and they really did work together. Among the chance recorded spottings of summer 1939 are two instances of the same train being worked on successive days by these two 'M7s'; for instance, the 4.47 pm Bournemouth West to Salisbury, and 8.14 pm return, were worked by No. 53 on 30th August 1939 and by No. 245 on 31st August. But their mileages worked at this time varied rather remarkably, with No. 53 regularly running about 40,000 miles a year, a very respectable figure for a relatively small engine, while No. 245 was covering barely 20,000 miles per year.

No. 53 had been the first 'M7' to acquire the Maunsell livery in 1923, and now became one of the first to lose this livery, being repainted in unlined dark green, with Bulleid lettering and cabside numerals, in October 1939. In spring 1940 No. 53 was transferred to Eastleigh, so breaking this brief association of our two survivors, and later in the war No. 245 also left Bournemouth, being transferred to Exmouth Junction. No. 245 did not receive any of the interim liveries of this period, going straight from Maunsell lined green to unlined black, with sunshine lettering, in October 1941; No. 53 received this livery in June 1942.

In the immediate post-war period No. 53 continued to work from Eastleigh, on duties that must have included regular trips on the Mid-Hants line; at this time No. 245 was one of about twenty-five 'M7s' at Exmouth Junction, with duties which ranged from the Exmouth and Sidmouth branches to the Bude line. Following nationalisation, No. 53 became British Railways No. 30053, in lined black livery, in November 1949, while No. 245 was renumbered as BR No. 30245 in August 1949, but not repainted in BR lined black until September 1951. Both engines moved on again about this time; No. 30053 was transferred to Fratton in December 1950, and used on the Meon Valley line, while No. 30245 went to Barnstaple in May 1952 and was then transferred to Nine Elms in October 1952, where her principal employment was on empty carriage workings in and out of Waterloo station.

Over the next decade, Nos. 30245 and 30053 could be regarded as a 'town and country' pair, leading correspondingly contrasted lives. The town engine, No. 30245, led a rather uneventful life, mostly hauling empty stock in and out of Waterloo in a relatively unchanging scene; the types of stock, and the express locomotives working it, gradually varied during this time, but the job went on. By contrast the country (and push-and-pull fitted) engine, No. 30053, had a much more varied and eventful life. This was a period when many rural push-and-pull services ceased, replaced by more modern stock (and usually being closed for good soon afterwards), and when many steam locomotive sheds closed; No. 30053 was to be a witness and participant in both these aspects in the decline of the Southern's

Dimensions (No. 245)

Wheel arrangement	0-4-4
Cylinders (2) - bore	18½"
stroke	26"
Driving wheel diameter	5' 7"
Boiler pressure	175 lb/sq.in
Tractive effort	19,756 lbs
Wheelbase	23' 7"
Overall length	35' 0¼"
Overall height	13' 2⅝"
Weight in working order	60 tons 4 cwt
Grate area	20.36 sq.ft
Total heating surface	1,191 sq.ft
Boiler tubes	213 x 1¾"
Water capacity	1300 gallons
Coal capacity	3 tons

Stephenson link motion, slide valves, lever reverse, left hand drive

(No. 53) - as for No. 245 except:-

Overall length	36' 3¼"
Weight in working order	62 tons 0 cwt

Steam reverse, push-and-pull fitted

Service Histories

Type introduced - March 1897

No. 245

Built by ... LSWR Nine Elms Order No.... M7/4
Cost..... £1846 Service date..... March 1897
Numbers:- LSWR - 245 (3/97)
SR - E245 (10/25), 245 (12/31)
BR - 30245 (8/49)
Withdrawn .. November 1962 Final mileage .. 1,603,998

No. 53

Built by ... LSWR Nine Elms Order No.... B13/3
Cost..... £1830 Service date .. December 1905
Numbers:- LSWR - 53 (12/05)
SR - E53 (11/23), 53 (6/32)
BR - 30053 (11/49)
Withdrawn.... May 1964 Final mileage.... 1,786,577

Left: Typical Southern condition – No. E245 now has five coal rails and the extra pair of steps. This must be around 1930, as the LSWR pattern push-and-pull gear has been removed. *Lens of Sutton*

Centre: Post-war years and unlined black, with sunshine lettering, is the order of the day. No. 53 waits in Eastleigh station in the late 1940s, having presumably just worked down from Alton via the Mid-Hants line. *Lens of Sutton*

Bottom: Town engine – this was the sort of work No. 30245 did for most of her last decade in service. The locomotive is leaving Clapham Junction sidings on 5th September 1953 with empty stock for Waterloo. *K.O'B. Nichols*

Country engine – No. 30053 proceeds through the rural scene between Three Bridges and Rowfant on a train for East Grinstead, in 1962.
Mike Esau

branch line steam operation. The two present survivors were not exceptional at this time, their duties being fairly typical of the 103 'M7s' still in service; large-scale withdrawals of 'M7s' did not start until 1958.

In the late 1940s the 'M7s' were still employed almost completely on the old LSWR system, on secondary and branch line workings and on various odd jobs; but in the 1950s, with some of these branches being closed, they moved onto other parts of the Southern Region. 1953 brought unusual assignments for both the survivors. In February 1953 severe floods inundated the ex-LCDR North Kent line, and emergency services, using push-and-pull units, had to be introduced. Nos. 30052, 30053 and 30129, were the three 'M7s' sent to Faversham in March 1953 to work these services, and they stayed on this work for the next two months. These services were reported as 'quite inadequate, and hopelessly overcrowded' but were better than nothing. With this emergency over, No. 30053 was transferred to Brighton, where her main employment was on the push-and-pull services on the Steyning line, to Horsham, as most of the ex-LBSCR push-and-pull engines had been withdrawn by this time; she was to spend most of her remaining years working on the ex-LBSCR system.

In December 1953, repairs to the turntable at Reading South meant that all Reading-Redhill services had to be worked by tank engines, and No. 30245 was transferred to Redhill as one of seven 'M7s' sent to help work this traffic. Loads on these trains were kept down, to assist the 'M7s', but time was still regularly lost. No. 30245 returned to Nine Elms in January 1954, and spent her remaining 8½ years there. The empty stock duties of the 'M7s' at Waterloo were gradually taken over, first by Western Region pannier tanks and then by BR standard tanks, and No. 30245 was withdrawn in November 1962.

After remaining at Brighton through much of the 1950s, No. 30053 was transferred to Eastleigh in June 1959, but returned to Brighton again in March 1960. The push-and-pull workings on the Steyning line ceased in March 1961, and the engine then moved to Three Bridges, for similar work on the line to East Grinstead. She then moved to Eastleigh again in June 1962, and on to Tunbridge Wells West in January 1963, for use on the push-and-pull workings to Oxted, taking part in the last day of these operations on 6th September 1963.Tunbridge Wells West shed then closed, and No. 30053 was again moved to Three Bridges, remaining there until that shed, too, closed in January 1964.

By this stage, Bournemouth shed was running the last push-and-pull operation on the Southern Region, and so No. 30053 was transferred there. This operation employed a number of tired and run-down 'M7s', and covered the Lymington and Swanage branches and the Bournemouth-Ringwood-Brockenhurst line. No. 30053 was recorded on all these lines, and took part in the last day's operations on the Ringwood line, on 2nd May 1964. When these push-and-pull services ceased, in May 1964, all the nine remaining 'M7s', the last Drummond engines in service, were withdrawn. No. 30053 was then stored at Eastleigh, but in late June she was sent to London to work the LCGB 'Surrey Wanderer' railtour on 5th July 1964. This train toured Surrey branch lines, and No. 30053 performed very creditably; she then went back into store at Nine Elms, before returning to Eastleigh in December 1964.

In Preservation

The 0-4-4 tank as a type was typical of turn-of-the-century British railway practice, and as the 'M7s' were particularly fine examples of the type, it was natural that one should be preserved in the National Collection. Early in 1961 it was officially decided that an 'M7' should be preserved, and No. 30245, the oldest survivor at the time, was selected. After withdrawal she was stored, like so many preserved Southern engines, in the roundhouse at Fratton, and was moved from there to Stratford in September 1964, making the journey in company with No. 30850 *Lord Nelson* and Beattie well tank No. 30587. The 'M7' returned to Southern territory in February 1968, and along with several other engines was stored in the old carriage sheds at Preston Park, near Brighton. Soon after arrival the engine was repainted in a light green lined livery, as LSWR No. 245, though no great claims for authenticity could be made for this livery. In this form the engine was used in June 1968 in the filming of 'Oh What a Lovely War!', and was at one point propelled into Brighton station, with suitable smoke 'effects', by an (unseen) diesel shunter. Otherwise the engine remained mostly out of public view, though occasionally some of the Preston Park stored engines were hauled out and put on display for a day in Brighton station.

Better accommodation, with some prospect of public viewing, was highly desirable for the Preston Park engines, and when the National Railway Museum was established at York, most of them were moved there. No. 245 made this journey on 19th November 1977, but was placed in the reserve collection and was again not normally on view. In 1982 a determined effort was made to restore the engine to authentic LSWR condition. Various unauthentic parts attached over the years were removed, such as the securing dogs around the smokebox door, and the plating on the coal rails. A dark green livery, edged with dark brown and with Drummond white-black-white lining, was applied at British Rail Litchurch Lane (Derby) Works, to return the engine to circa 1903 condition. It is hoped that the engine, in this form, will be on public view again before too long.

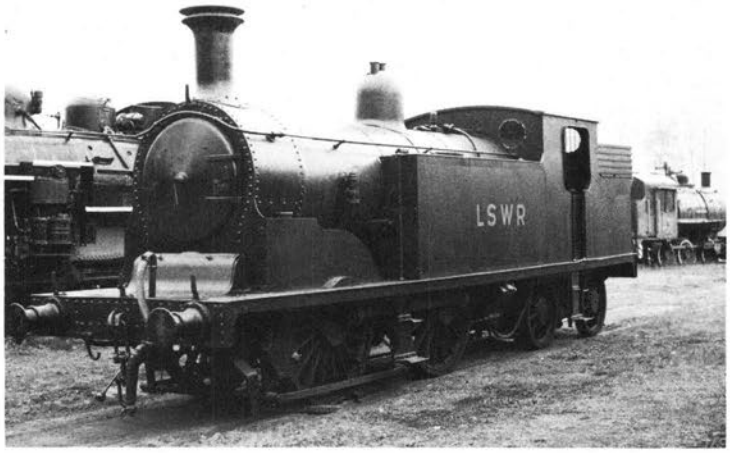
No. 30053 was bought by F. Nelson Blount, founder and first chairman of Steamtown, Bellows Falls, Vermont, USA, for inclusion in an international collection of steam locomotives; 'Schools' class No. 30926 *Repton* was bought for the same collection. No. 30053 remained in store at Eastleigh until entering the Works in April 1966 for refurbishment. When this was complete she was taken, still in BR lined black, to Preston Park in February 1967 for storage; this was about a year before the other surviving 'M7', No. 30245, was to start her long period of residence there. Then, in readiness for the journey to America, No. 30053 was hauled to Liverpool, setting off on 13th April 1967, in company with *Repton*, now restored as Southern Railway No. 926, and restored GWR passenger brake carriage No. 6705. The three were then loaded onto the Canadian Pacific vessel *Roonagh Head*, which sailed for Montreal on 18th April.

On arrival in the 'New World', the 'M7' was moved to Steamtown and placed on display among the collection of steam locomotives of the world-wide origin. No. 30053 has not been steamed in the USA, though she has been repainted in a very dark green, unlined, livery lettered *'LSWR'*, with very little claim to authenticity indeed. During 1984 the Steamtown collection was moved to Scranton, Pennsylvania.

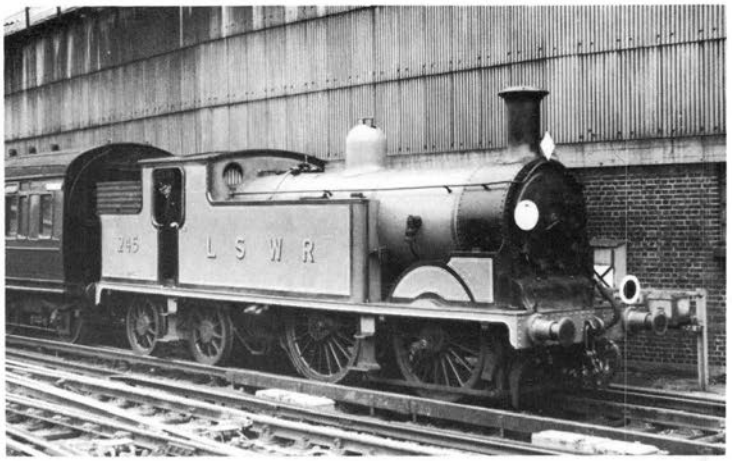
In 1982 steps were taken in Britian to try to obtain the return of the 'M7' and *Repton* to their native land; a project under the name 'Southern Repatriation' was set up to co-ordinate these efforts. It was planned that, when No. 30053 was returned to Britain, she would be restored to working order at the Swanage Railway.

On 5th July 1964, two months after official withdrawal, No. 30053 worked the LCGB 'Surrey Wanderer' railtour over ex-LSWR London suburban lines. Here the train passes under all the tracks near Clapham Junction and heads from Kensington Olympia to Victoria. *Brian Stephenson*

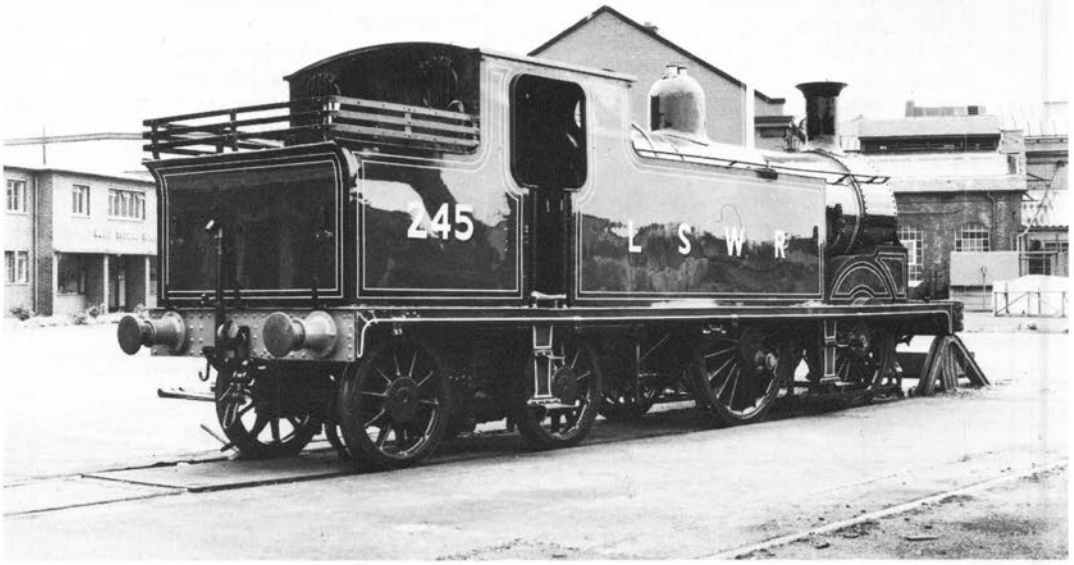
In a corner of Eastleigh Works yard, in August 1965, No. 30053 awaits overhaul before being sent to her new owners in the USA. *John Bird*



All thoughts of authenticity of restoration are far away in this shot of (unnumbered) No. 53 at Steamtown, Bellows Falls, USA. Perhaps this would have been authentic if the LSWR had been an American railroad! *Courtesy Southern Repatriation*



After storage at Fratton and Stratford, No. 245 was restored to a form of LSWR livery at Preston Park in 1968. She is about to be propelled into Brighton station during filming of 'Oh, What a Lovely War!' – 22nd June 1968. *S.C. Nash*



After going to York in 1977, No. 245 was repainted at Derby in 1982 and an attempt at a more accurate 1903 restoration was made, with a number of subsequently added parts being removed. However, the livery shade used is now known to be inaccurate and it is planned that it will be amended. *John Scrace*

'T9' class No. 120

Drummond had established his standard pattern of inside-cylinder 4-4-0 express passenger locomotive very early in his career, with the '476' class of 1876 for the North British Railway. These were followed by the very similar '66' class for the Caledonian Railway. So when he built his first 4-4-0s for the LSWR, it was no surprise that the'C8' class of 1898 bore strong resemblances to the two Scottish types. However, the 'C8' class proved underboilered for the LSWR's main express workings, and Drummond, evidently anticipating this, ordered a new type similar to the 'C8' but with a larger firebox. This was the 'T9' class, of which 66 were built, making them the most numerous Drummond 4-4-0 type. Drummond continued to build 4-4-0s to this formula right up to the end of his career, ending with the very fine 'D15' class of 1912.

Thirty-one of the 'T9' class were built by Dubs of Glasgow, and thirty-five by the LSWR at Nine Elms, between 1899 and 1901. No. 120 was one of the first batch of ten, Nos. 113-122, built at Nine Elms, and was completed there in August 1899. This locomotive was one of the earlier, narrow cab variety of 'T9', and was not fitted with the firebox water tubes carried by many of the class. Initially No. 120 had a 6-wheel tender, but this was replaced by an 8-wheel bogie tender in May 1907. The 'T9s' were immediately put to work on the railway's main express workings, where they soon won a high reputation; though they were little if any bigger than Adams' last 4-4-0s, the well thought-out design, particularly of the steam passages, ensured that the 'T9s' were soon the LSWR's most highly regarded express locomotives. They soon became known as 'Greyhounds' because of their free running qualities and the smoothness with which they performed their work.

No. 120 was initially based at Nine Elms, and in 1901 was one of ten of the class fitted with carriage-heating apparatus, for use with the new stock introduced by the LSWR on some of their West of England services. The 'T9s' remained in charge of many important express workings after Drummond's later 4-4-0s had been introduced, and even after the arrival of the first Urie express 4-6-0s. No. 120 continued to perform such work from Nine Elms, but was transferred to Bournemouth about 1914, and to Plymouth in 1923; following the formation of the Southern Railway, she was renumbered E120, and painted in Southern lined green livery, in June 1925.

Drummond had not been an advocate of superheating, believing that as good an effect was achieved by his own special devices, including firebox water tubes. Urie, his successor, disagreed, and soon sought to improve the performance of Drummond's engines, notably by applying superheaters. The 'T9s', not one of the types most obviously needing improvements to their performance, were thus not one of the first classes to be treated. But in 1922 the first superheated 'T9', No. 314, appeared, and during the rest of the 1920s these conversions, initiated by Urie and approved by Maunsell, were carried out on all sixty six of the 'T9' class. In most cases the conversion was done by using an existing 'T9' boiler, in which the barrel was retained but with new tubes, tubeplate and firebox. Fitting the superheated boiler to the 'T9' class necessitated an extended smokebox, to house the superheater headers, and Urie's pattern of stovepipe chimney was also fitted. Some other modifications were made around the same time; for locomotives like No. 120, these included moving the sandboxes from the front driving wheel splashers (where they tended to work loose) to a position between the frames, and moving the clack boxes from their inaccessible position, partly in the smokebox and partly between the frames, to a more accessible position on the boiler side. No. 120 was superheated in April 1927, receiving a Maunsell superheater, with snifting valves.

During the 1920s the Southern Railway 'King Arthur' class became established on the biggest express workings on the railway's Western Section, and the 'T9s' came to be regarded as secondary passenger locomotives. But in their superheated form they were undoubtedly very capable secondary express locomotives, for which many jobs could be found. Some were used on the other sections of the Southern, but most, including No. 120, remained on the Western Section. Besides regular secondary passenger workings, they were kept well occupied with weekend holiday extras, special excursions, VIP workings and even Royal Trains.

Dimensions

Wheel arrangement	4-4-0	Weight in working order	96tons 15cwt
Cylinders (2) - bore	19″	Grate area	24 sq.ft
stroke	26″	Total heating surface	1276 sq.ft
Driving wheel diameter	6′ 7″	Boiler tubes	21 x 5¼″
Boiler pressure	175 lb/sq.in		122 x 1¾″
Tractive effort	17,673 lbs	Water capacity	4000 gallons
Wheelbase	47′ 10″	Coal capacity	5 tons
Overall length	57′ 5½″	Stephenson link motion, slide valves, steam reverse, left hand drive	
Overall height	12′ 8″		

Service History

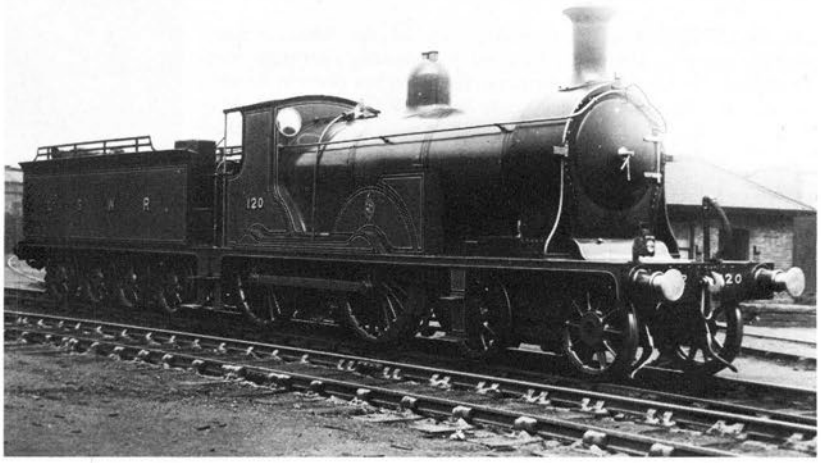
Type introduced - February 1899

No. 120

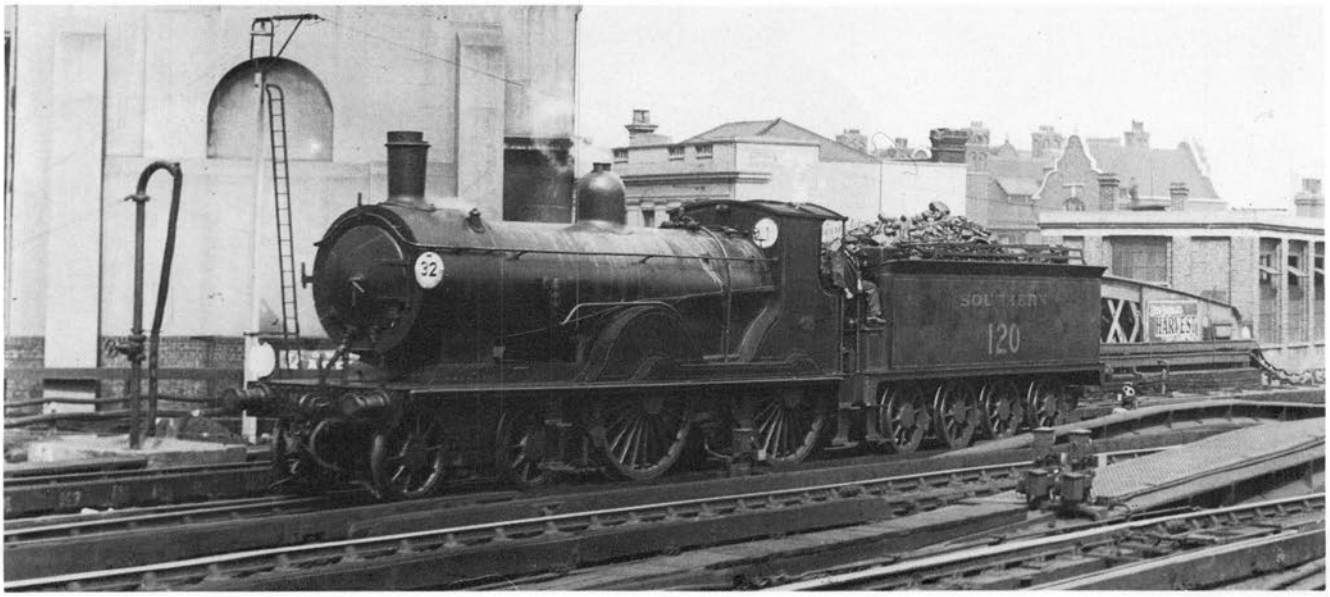
Built by ... LSWR Nine Elms Order No.... G9/8
Cost..... £2271 Service date .... August 1899
Numbers:- LSWR - 120 (8/99)
SR - E120 (6/25), 120 (9/32)
BR - 30120 (1/49)
Withdrawn .... July 1963 Final mileage 1,713,304

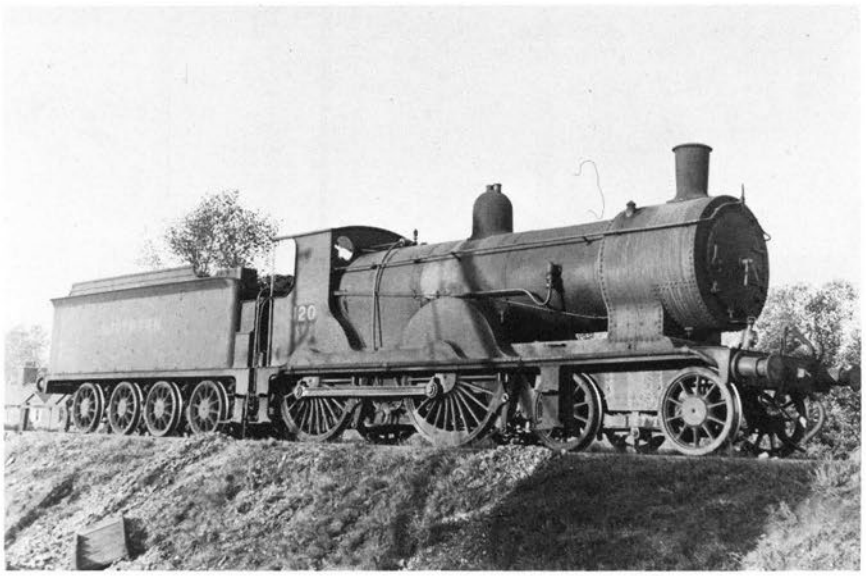
Above: The first 'T9' built at Nine Elms, No. 113, seen here at Nine Elms on 13th July 1901 with original six-wheel tender, shows how No. 120 would have looked when built; plainly another artist-engineer now has control of LSWR locomotive matters.
J.B.N. Ashford/Collection of the late George Kerley

Right: In 1907 No. 120 received an eight-wheel tender, but is otherwise still in original condition.
By courtesy of National Railway Museum, York

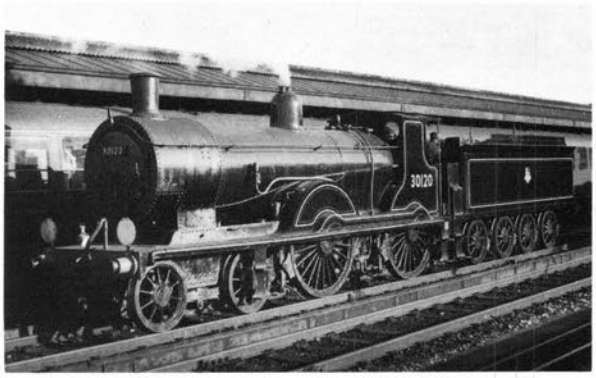


Below: The biggest alteration to the 'T9s' was their modification to super-heated form, with Urie stovepipe chimney and extended smokebox, in the 1920s. No. E120 was superheated in 1927 and sits outside Waterloo station on 19th August 1928.
H.C. Casserley



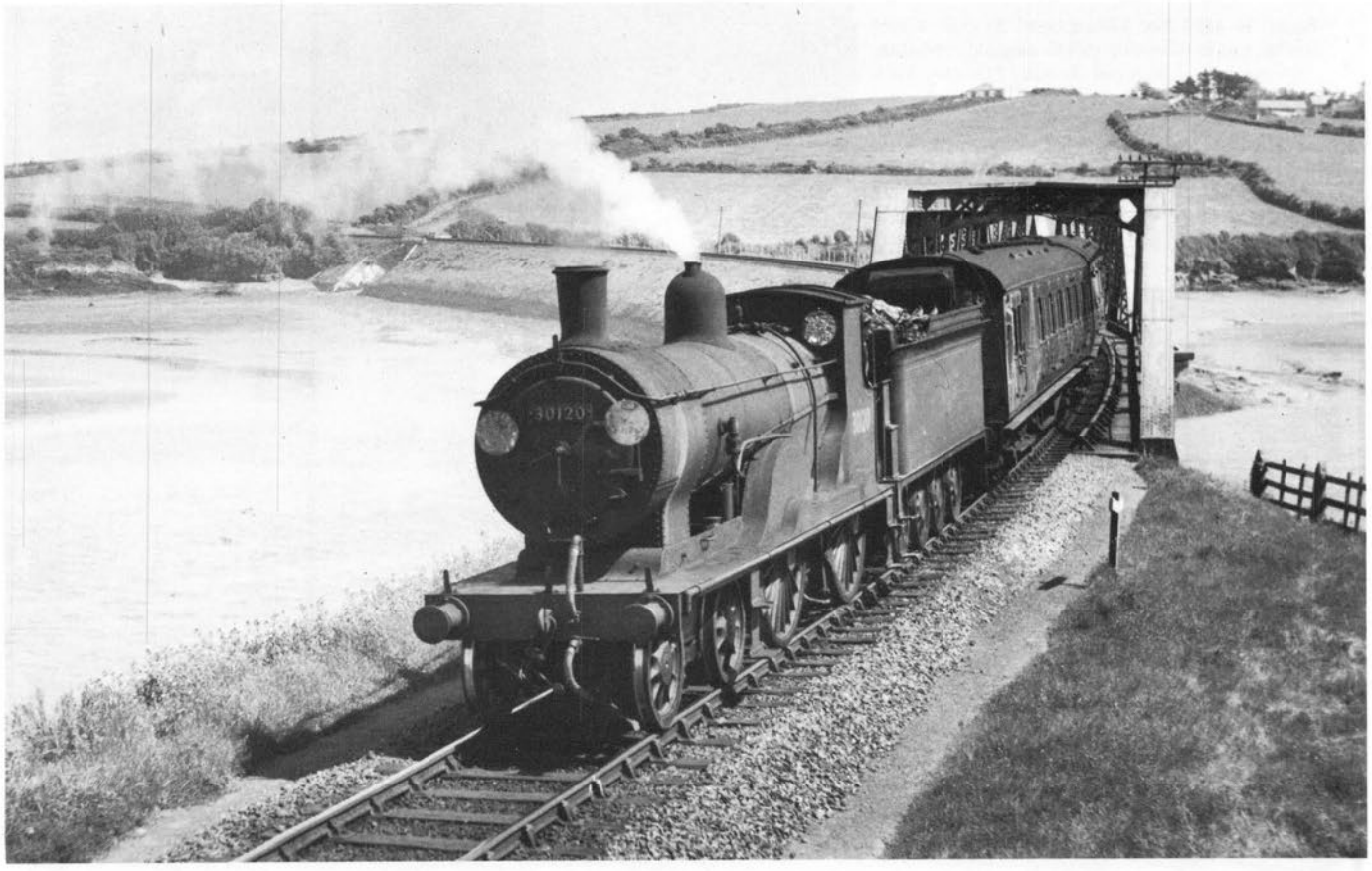


Left: By the end of World War Two, No. 120 had lost the capuchon from the chimney and acquired wartime unlined black livery; Eastleigh, 20th September 1947. *K.O'B. Nichols*



Right: Becoming BR No. 30120 in January 1949, the locomotive was painted in BR lined black in June 1950. In this livery, with 71C (Dorchester) shed plate, the locomotive sits at Redhill on 22nd August 1953, fresh from overhaul at Brighton. *S.C. Nash*

Below: No. 30120's last BR workings were in the West Country, nominally based at Exmouth Junction but usually operating from Okehampton. On one of these workings, the 14.00 hrs Bodmin North – Padstow, the locomotive crosses Little Petherick Creek on 13th May 1961. *S.C. Nash*



No. E120 lost the 'E' prefix to become No. 120 again in September 1932; in that year the locomotive was shedded at Eastleigh, and remained there until the major set of locomotive transfers that accompanied the Portsmouth line electrification in July 1937. At this point the ten 'D15' 4-4-0s were moved from Fratton to Eastleigh, and No. 120 was one of the 'T9s' transferred to Fratton to replenish that shed's stocks, and to handle their workings on lines not yet electrified. No. 120 remained at Fratton until the war, and was affected quite early on by the Southern's livery experiments of the late 1930s, being repainted unlined dark green, with cabside numerals, in May 1940. After that, wartime austerity intervened, and the locomotive was repainted unlined black, with sunshine lettering, in November 1943.

No. 120 was transferred back to Eastleigh during the war, and remained based there until 1950. During these years the first withdrawals of the 'T9' class occurred. In the Southern's part of the oil-burning scheme of 1947-48, thirteen of the 'T9s' were converted to burn oil, and when the scheme was abandoned all these were discarded; during 1951-52 they and fourteen other 'T9s' were withdrawn.

Following nationalisation, No. 120 was renumbered 30120 (in January 1949) and painted BR lined black in June 1950. Having been at Eastleigh for several years, the locomotive was now subjected to a rapid series of transfers, going to Fratton (September 1950), Dorchester (March 1951), Guildford (October 1952), Dorchester, again, (December 1952) and back to Eastleigh in September 1953. Then, by contrast, the locomotive remained based at Eastleigh for almost the whole of the rest of her BR career. During the 1950s a large number of BR Standard Class '4' Moguls, the 76XXX class, were based at Eastleigh, and only a fairly small range of jobs remained for No. 30120 and the other 'T9s' at Eastleigh. These included some van workings in the Southampton area and a few secondary passenger turns. A notable day for No. 30120 was 5th March 1960 when she worked the last Didcot to Eastleigh passenger train, over the Didcot, Newbury and Southampton line.

While the 'T9s' in Hampshire had lived rather sparse lives, under the shadow of locomotives like the Standard Moguls, the 'T9s' in the West Country had a much more exalted position. They were still in regular use on a number of passenger workings on the lines west of Exeter, where they had formed a part of the scene for many years. By 1961, however, the West Country batch of 'T9s', based at Exmouth Junction, were in need of reinforcement and No. 30120 was transferred there in March 1961. The locomotive took part in the last months of 'T9' operation in these parts, mostly operating out of Okehampton and running to Plymouth, Padstow and Bude. But these workings finished in June 1961 and No. 30120, with the other 'T9s' remaining in the West Country, was despatched back to Eastleigh. All the others were withdrawn and cut up, but No. 30120 was set aside for restoration, and so the locomotive's life in preservation can be said to start from this point.

Preservation brought fame to No. 30120; she was restored in 1962 as LSWR No. 120 in light green livery and worked a number of railtours and specials in 1962 and 1963. Here, at Norwood, she prepares to work a 'Blue Belle' special in September 1963. *R.C. Riley*

The preserved 'T9' was restored to working order on the Mid-Hants Railway, re-entering service in 1983 as BR No. 30120; a typical Mid-Hants working, with BR stock. *Geoff Silcock*

In Preservation

The decision to retain No. 30120 for preservation in the National Collection was taken around the start of 1961. So when the locomotive returned to Eastleigh in June 1961 she entered the Works to be refurbished and restored to 1920s condition. On emerging in March 1962, the locomotive had become LSWR No. 120 in Urie lined green livery. The earliest 'T9s' to be superheated had been given this livery, but No. 120 was not converted until well after Southern green had become the standard; so the livery was authentic for the superheated 'T9s' as a type, but not for this particular locomotive. No. 120's chimney now carried a capuchon (wind-shield) once more, to add to the 1920s image of a newly superheated 'T9'.

After running-in on a few local workings, No. 120 began to work a series of railtours which made her, for a while, one of the Southern Region's most celebrated locomotives. During 1962 her most notable specials were the 'Sussex Coast Limited' of 24th June, and the 'Blue Belle' of 21st October, while in 1963 she featured on the 'Hampshire Venturer' of 10th March, the 'North Cornishman' of 27th April, and another 'Blue Belle' on 15th September. This second 'Blue Belle' was worked together with the restored Caledonian Railway 4-2-2 No. 123, another Dugald Drummond locomotive, and on each 'Blue Belle' working the 'T9' had an interesting encounter at Haywards Heath. Here, on both occasions, another restored LSWR locomotive in light green livery, the Bluebell Railway's Adams radial tank No. 488, was one of the locomotives taking over the special to work it to Horsted Keynes and onto the Bluebell line. In the midst of all this activity the 'T9' was officially withdrawn by BR in July 1963.

No. 120's period of active celebrity came to an end with the end of 1963, and on 11th January 1964 she went into store at Fratton shed; it was to be nineteen years before she was steamed again. The active, much-photographed life of 1962 and 1963 was now followed by long periods in store at various places, often away from public view. After storage at Fratton No. 120 left on 20th September 1964 for Stratford (Eastern Region), in company with 'King Arthur' class No. 777 *Sir Lamiel* and 'Schools' class No. 925 *Cheltenham*; the 'T9' was then moved to Preston Park carriage sheds, at Brighton, in February 1968. In September 1970, again in company with *Sir Lamiel* and *Cheltenham*, No. 120 was moved to the Standard Gauge Steam Trust, Tyseley, Birmingham, where it was hoped to carry out restoration work, but in the event none was done. The locomotive was eventually moved to the National Railway Museum, York, in October 1977, pausing on the way to appear at a Derby Carriage Works Open Day. At York the 'T9' remained out of the public view in the reserve collection.

During 1981 the Urie S15 Preservation Group, already owners of Urie 'S15s' Nos. 499 and 506, approached the museum authorities with a view to obtaining No. 120 on loan, to be restored to working order on the Mid-Hants Railway. This was agreed in August 1981 and the locomotive was moved to the Mid-Hants, arriving at Alresford on 18th September. No. 120 was soon moved to Ropley and, after the scale of the work had been assessed, restoration work commenced.

The first big job was the repair of the drag box, using 'metal surgery', but then a thorough overhaul was carried out on the locomotive and tender, inside Ropley shed. At the end of this, the 'T9' was repainted in BR lined black livery as No. 30120, and to authenticate this the capuchon was removed from the chimney. The locomotive re-entered service on the Mid-Hants on 14th May 1983, and was in regular use throughout that season. At first the locomotive worked the standard 5-coach Mid-Hants sets, turn and turn about with locomotives like the line's Maunsell Moguls, but these loads on the steep gradients proved too taxing, and the 'T9' normally operated with a 4-coach set

Robert Urie (1854-1937)
Locomotive Engineer 1912-23

Like William Adams before him, Robert Urie was not immediately employed in the railway profession. After initial experience in general mechanical engineering he became a draughtsman with the Caledonian Railway in 1885, at the time that Dugald Drummond was Locomotive Superintendent there. He was later Chief Draughtsman (1890) and then Works Manager (1896) of the Caledonian, before becoming Works Manager of the LSWR in 1897. He served in this position, under Drummond, until 1912, when Drummond died and Urie succeeded him.

It would be expected that, as Urie had served for so long under Drummond, his locomotives would be very similar to those of his former chief. But not a bit of it; Urie immediately established his own quite distinct design approach, which was a radical break from Drummond. Urie's locomotives had two outside cylinders, outside Walschaerts valve gear, and the running plate set high for ease of access to the working parts. Such an approach, pioneered in Britain by Urie, was to become the standard layout for steam locomotives by the 1940s and in the BR steam era. Urie also introduced the use of superheaters to the LSWR.

Again in contrast to Drummond, Urie was not a believer in complicated devices, the layout of his locomotives being relatively simple. In this he could almost be regarded as a throwback to Adams, as also in his use of stovepipe chimneys, though the Urie stovepipe had a more utilitarian look than Adams' graceful creation. In liveries too, Urie adopted a relatively simple style which had more in common with Adams than with Drummond's elaborately lined style.

Urie retired in September 1923, following R.E.L. Maunsell's appointment as Chief Mechanical Engineer of the Southern Railway in July of that year.

'S15' Class Nos. 499 and 506

Urie's first design for the LSWR was the 'H15' class 4-6-0 of 1914, a mixed traffic type which incorporated all the essentials of his design approach. It was followed by the 'N15' class of 1918, which was essentially an adaptation of the 'H15' for express passenger work; the 'King Arthurs' were later developed from this class. The third design, the 'S15' class of 1920, was in most respects a version of the 'N15' for heavy goods work. Because of the LSWR's emphasis on passenger traffic, they gave these goods locomotives 5'7" diameter driving wheels, so they would be able to make a useful contribution to moving the summer Saturday holiday traffic. Five 'S15s' were authorised in January 1916, ten more in March 1917 and another five in October 1918, but they were built as a single batch, Nos. 496-515, in 1920-21. By this time the LSWR had moved its main works to Eastleigh, so the surviving Urie 'S15s' are the oldest surviving locomotives built there.

No. 499 was completed at Eastleigh in May 1920 and No. 506 followed in October; they were fitted with Urie's 'Eastleigh' superheater and painted in 'holly green' goods livery. Both were initially allocated to Nine Elms, but No. 506 was transferred to Strawberry Hill in 1922 and then to Feltham in 1923, following the establishment of the new marshalling yard there. Apart from a brief period at Exmouth Junction in 1927 (probably on loan), No. 506 remained at Feltham for the rest of her working life. The yard at Feltham, planned by the LSWR but only fully operational in Southern days, was the largest on the Southern system, and the twenty Urie 'S15's' were associated, above all else, with the goods working in and out of this yard. The 'S15s' were much larger and more powerful than any previous LSWR goods locomotives; the railway had not built any purely goods locomotives since the Drummond '700' class 0-6-0s of 1897, though some of Drummond's mixed traffic 4-4-0s did regular goods work.

Following the formation of the Southern Railway, Nos. 499 and 506 received 'E' prefixes to their numbers, in January 1925 and December 1924 respectively, and were painted in the Southern's lined black goods livery at the same times. From early on a work pattern was established by these locomotives which varied little over the years. During the week they worked heavy goods trains from London, principally out of Feltham yard, and a small number of passenger turns; on summer Saturdays they would always be called on to assist the Nine Elms allocation of express locomotives in moving the holiday crowds to and from the resorts. For four decades they remained the principal heavy goods locomotives on the ex-LSWR lines out of London.

In the years around 1930, a number of changes affected these locomotives. As the 'S15' class were regularly used on express work at holiday times, it was decided in 1928 to repaint them in express passenger lined green livery, and in June 1929 authority was given for 'S15s' to be fitted with smoke deflectors, for the princely sum of £11 per locomotive. They were also fitted with the Maunsell pattern of superheater, with snifting valves, in place of their Eastleigh superheaters. No. E499 received all these changes in June 1931, while No. E506 received lined green livery and a Maunsell superheater in February 1930, and smoke deflectors in July 1932; also in July 1932, No. E506 lost the 'E' prefix to become No. 506 again, while No. E499 similarly became No. 499 again in January 1934. Between 1934 and 1936 the Southern rebuilt the seven ex-LBSCR 'Remembrance' 4-6-4 tank engines as 'N15X' class 4-6-0 tender locomotives, and gave them tenders taken from 'S15s'. No. 506 was one of the 'S15s' affected, in April 1935, and received in replacement a Drummond 4000 gallon 'water cart' tender, from withdrawn 'C8' class No. 291.

The late 1930s were probably the peak of the Southern's activity, and around this time both Nos. 499 and 506 were both averaging over 33,000 miles per year in service. The same period also saw the start of livery experiments on the Southern, and No. 506 was repainted in unlined dark green, with cabside numerals, in October 1939. Six of the twenty Urie 'S15s', including No. 499,

Dimensions

Wheel arrangement	4-6-0
Cylinders (2) - bore	21″
stroke	28″
Driving wheel diameter	5′ 7″
Boiler pressure	180 lb/sq.in
Tractive effort	28,198 lbs
Wheelbase	57′ 1½″
Overall length	65′ 6¾″
Overall height	13′ 2¾″
Weight in working order	137tons 12 cwt
Grate area	30 sq.ft
Total heating surface	2215 sq.ft
Boiler tubes	(24 x 5¼″ (167 x 2″
Water capacity	5000 gallons
Coal capacity	5 tons

Walschaerts valve gear, piston valves, screw reverse, left hand drive

Service Histories

Type introduced - March 1920

No. 499

Built by... LSWR Eastleigh Order No.... S15/3
Cost..... £8407 Service date..... May 1920
Numbers:- LSWR - 499 (5/20)
SR - E499 (1/25), 499 (1/34)
BR - 30499 (1/49)
Withdrawn... January 1964 Final mileage... 1,241,024

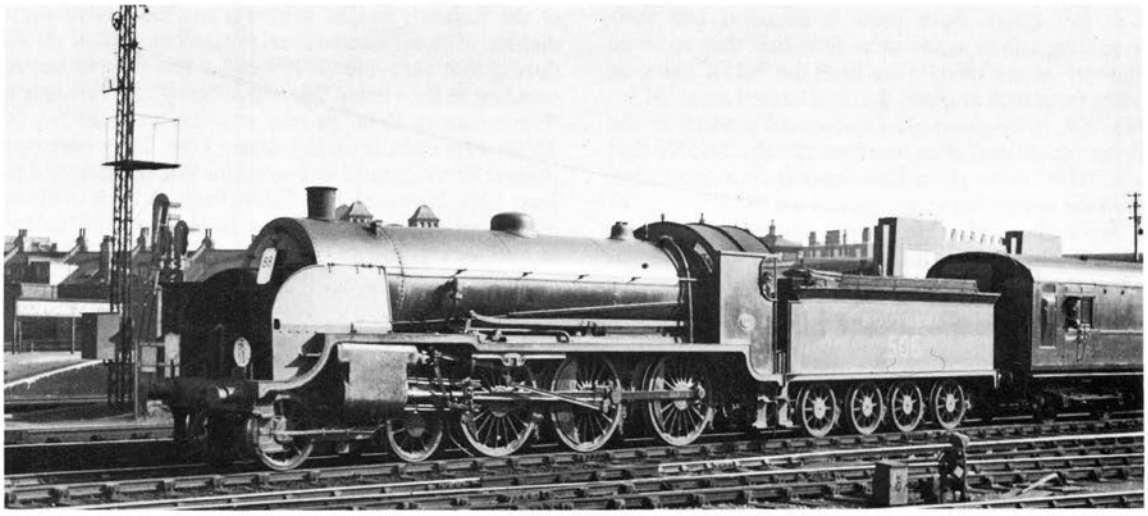
No. 506

Built by... LSWR Eastleigh Order No.... A16/5
Cost..... £9567 Service date... October 1920
Numbers:- LSWR - 506 (10/20)
SR - E506 (12/24), 506 (7/32)
BR - 30506 (8/49)
Withdrawn... January 1964 Final mileage... 1,227,897

had remained based at Nine Elms during the 1930s, but during the war years they joined the rest of the class at Feltham, No. 499 moving there in the Spring of 1940. No. 499 did not receive any of the interim liveries of 1939-41, but went straight into wartime unlined black in August 1941; in this case plain lettering was applied, as 'sunshine' lettering was not introduced until September of that year. At the same time No. 499's stovepipe chimney was replaced by one of the Maunsell 'U1' pattern. Soon afterwards, in November 1941, No. 499 was one of four Urie 'S15s' loaned to the GWR, where she was based at Old Oak Common and worked both passenger and freight traffic, returning to the Southern in May 1943. No. 506 received the plain black livery in May 1942, and a Maunsell chimney in August 1945.

In the post-war years the Urie 'S15s' were still the mainstay of the Feltham goods workings, many of them to the Southampton area, and were still used regularly on summer Saturday holiday 'extras'. In January 1949 No. 499 became British Railways No. 30499, in unlined black livery; at this point Eastleigh was turning out repainted locomotives with plain, unlettered tenders (or tanks), and No. 30499 stayed in this condition until the BR crest

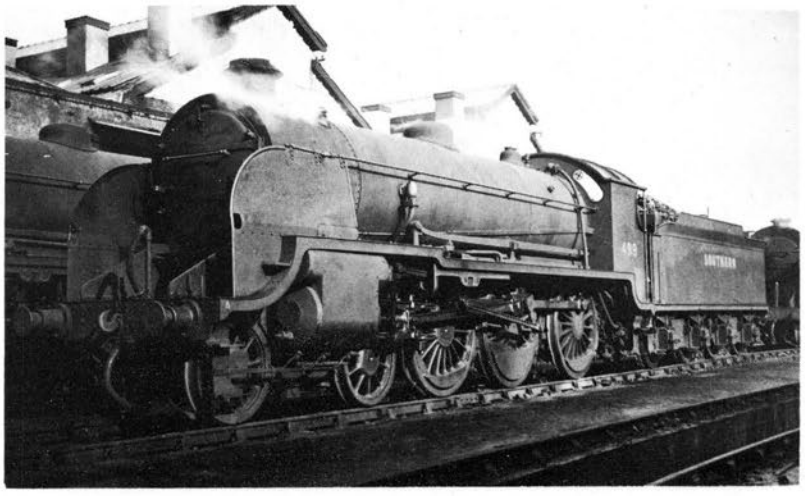
With Urie's locomotives we move abruptly from the era of the artist-engineer to 20th century functionalism. 'S15' class No. 506, with running plate set high, and austere stovepipe chimney, in Nine Elms yard in the very first years of her life.
Lens of Sutton



Top: 'S15' class No. 499 ex-works at Eastleigh on 13th September 1936; by this time the locomotives had gained smoke deflectors, lost the capuchon from the chimney, and been painted lined green.
K.O'B. Nichols

Above: Seven of the 'S15s' received Drummond 'watercart' tenders in the 1930s. One of these was No. 506, shown at Clapham Junction on 4th June 1938.
K.O'B. Nichols

Right: No. 499 received a Maunsell 'U1'-type chimney in 1941, and was given the SR wartime livery. She is still in this state on 31st August 1946 at Nine Elms.
R.C. Riley



No. 30506 retained the watercart tender into the BR era, and had received a BR crest when photographed at Eastleigh on 4th February 1950. *D.L. Bradley*

was applied to the tender in May 1951. By August 1949, when No. 506 became No. 30506, Eastleigh were applying crests to repainted locomotives, and so she received the lion-and-wheel on the tender at this point. Both these locomotives lost their superheater snifting valves at the same time that they received their BR numbers. In the 1930s it had been the 'N15X' class, on their rebuilding from tank engines, that had caused some 'S15s', including No. 506, to be given old Drummond tenders. In the 1950s it was the withdrawal of locomotives like the 'N15Xs' that enabled these 'S15s' to be given Urie tenders once more; No. 30506 received the tender from withdrawn Urie 'N15' No. 30745 *Tintagel* in September 1956. No. 30499, on the other hand, retained her original tender until December 1963 when she was given a 6-wheel tender from Maunsell 'S15' No. 30835.

In the early 1960's the Feltham goods workings, for so long a feature of the ex-LSWR landscape, began to run down. Withdrawals of Urie 'S15s' started late in 1962 and reorganisation of the Region's freight workings in 1963, following the introduction of diesel locomotives, resulted in most of the class going during that year. No. 30499 had a last fling in summer 1963, standing in for a failed 'Merchant Navy' class locomotive on the 'Bournemouth Belle' on one occasion but both No. 30499 and 30506 were withdrawn in January 1964. They were stored in the open at Feltham until setting off for Woodham's yard at Barry in June 1964. However, No. 30506, brought back to life to tow No. 30499 and Maunsell 'S15s' Nos. 30841 and 30847 to Barry, failed at Staines and had to be towed to Barry in October.

Another unusual tender was the six-wheeler fitted to No. 30499 just before the locomotive was withdrawn; the pairing is seen stored at Feltham on 10th March 1964. *John Scrace*

On a rather wet Midsummers Day, 24th June 1957, No. 30499 is shepherded out of Southampton Docks by railway flagmen.
R.C. Riley

The usual work of the Urie 'S15s' was heavy freight, and here is No. 30506 hard at work on the South Western main line in her later years. The locomotive has now regained a Urie tender, with the second pattern of BR crest. *T.E. Williams Collection, NRM, York*

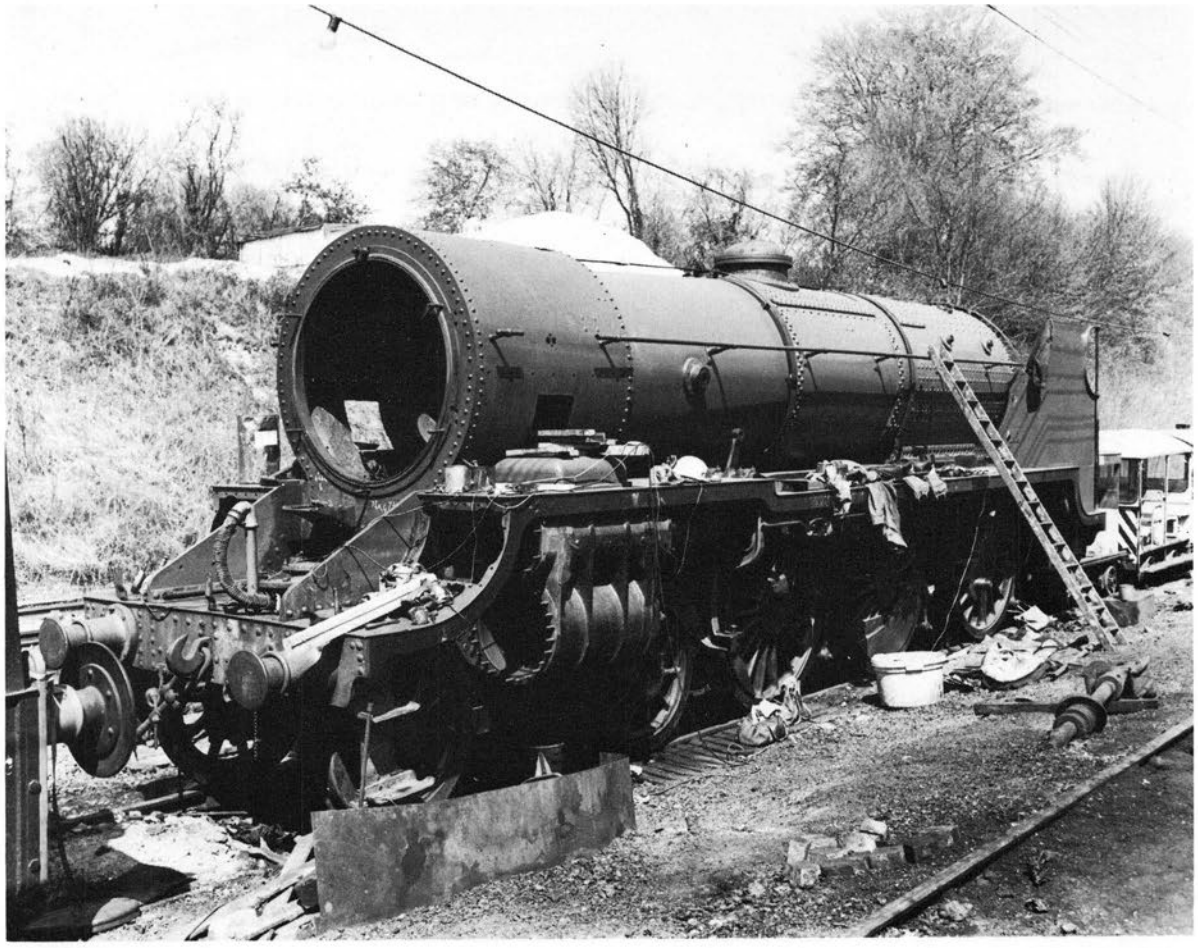
In Preservation

All the earlier preserved LSWR locomotives were of obvious historical interest when they were withdrawn, and so steps were taken to preserve them, where practicable. The Urie 'S15s', withdrawn between 1962 and 1964, were not at that time items of obvious historical significance; they were much too clearly 'modern' to be of much interest to the early preservers. Three Urie 'S15s', Nos. 30499, 30506 and 30512, went to Woodham's yard at Barry, and No. 30512 was cut up soon afterwards. The other two remained at Barry, as just two of the 230-odd locomotives in the yard.

Rescue of locomotives from Barry began in 1968, and in 1971 it was pointed out in the railway press that these two ex-LSWR locomotives were among the very few pre-grouping ones in the yard. So in 1972 the Urie S15 Preservation Group was formed, with the aim of purchasing one of the two Urie 'S15s' for restoration to working order. They purchased No. 30506 for £4,000 on 26th March 1973, and regular working parties began preparing the locomotive for moving to a permanent home. This home was decided by two ballots of the group's members, in 1974 and 1975, both of which showed a clear preference for the newly established Mid-Hants Railway. Accordingly No. 30506 left Barry on 26th April 1976 and arrived at Alresford, on the Mid-Hants Railway, three days later.

Some restoration work was carried out at Alresford, but it began in earnest after the locomotive was moved down the line to Ropley in April 1977, at the time of the re-opening of the Mid-Hants line. Soon afterwards another ballot of group members decided that the locomotive should be restored in Southern Railway lined green livery as No. 506. Restoration work proceeded until early in 1980, when it was found that the locomotive's boiler would need very expensive repairs, and so the boiler from Maunsell S15 No. 30825, at Barry, was bought and fitted to No. 506 in February 1981. Following the fitting of this new boiler, restoration began again with new impetus, but was suspended for over eighteen months, in 1981-83, while the Urie S15 Group were involved in the major overhaul needed to return 'T9' class No. 120 to working order. With the restoration of the 'T9' complete, restoration work on No. 506 restarted during 1983, at first on the tender and then on the locomotive itself.

No. 30499, remaining at Barry, had been regarded by the Urie S15 Preservation Group initially as a possible source of spares for No. 506, but eventually they decided to buy the locomotive. They bought No. 30499 on 26th March 1980 (exactly seven years, to the day, after No. 506 had been bought) for £8,500 plus VAT, and on 29th July 1980 they bought the tender from Maunsell S15 No. 30825, at Barry, for £2,500 plus VAT, for use with No. 30499. While the Urie S15 Group were working on the 'T9', No. 30499 remained at Barry, but the 'S15' and tender were moved to Alresford on 10th November 1983.



Men at work! The restoration gang have just broken off, probably for lunch, leaving their paraphernalia all over No. 506 in Ropley yard; 29th April 1984. *Mick Roberts*

Electric shunter No. 75S

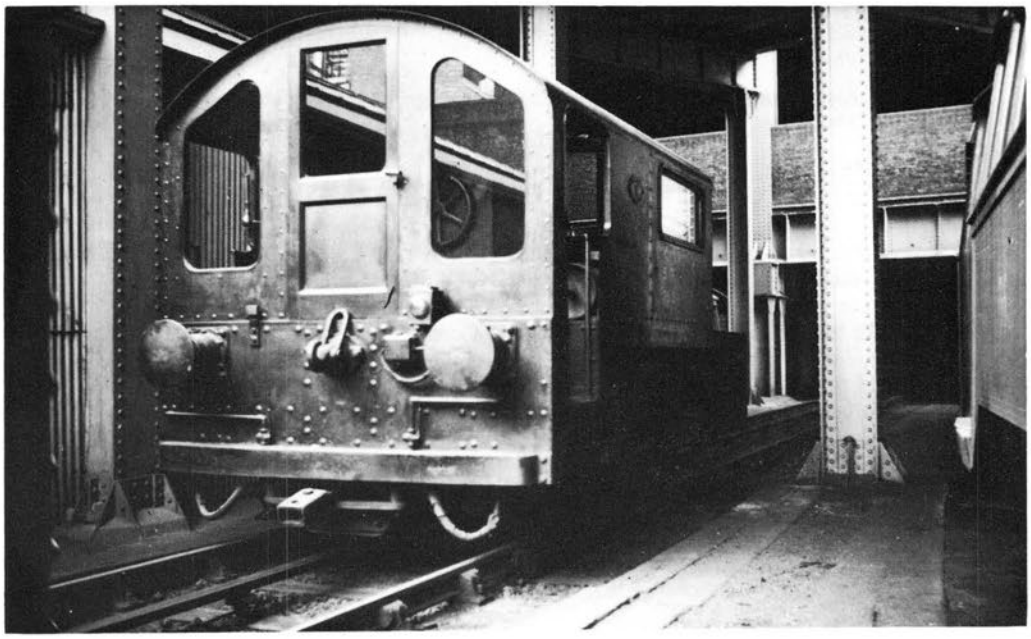
This is surely the least known of ex-LSWR locomotives, and one which very few people ever saw during its working life. No. 75S spent its time underground, performing shunting operations on the Waterloo and City Railway.

The locomotive was built in 1898 to coincide with the opening of the Waterloo and City Railway, which the LSWR took over in 1907. It was built by Siemens, who also provided the electrical equipment, and was their Works No. 6, but it is believed it was unnumbered in LSWR times, only becoming 75S in the SR era. It has two 60 hp Siemens nose-suspended motors and is four-wheeled, with both axles driven; it has outside frames, and the body does not extend over the full length, leaving an open platform at one end. There is only a driving position at one end, but large windows in both ends ensure good visibility in either direction. The original cost quoted was £1653.

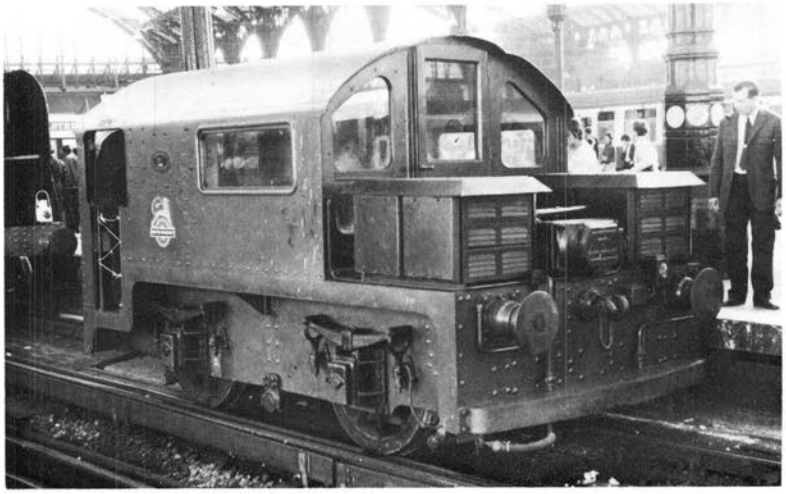
No. 75S was assigned to the Electrical Engineer's Dept. and its principal duty was to move coal wagons from the bottom of the lift, down which they were delivered from Waterloo station sidings, to the coal bunkers which originally supplied the Waterloo and City line's power station, but which later supplied heat to Waterloo station offices. The locomotive is also believed to have been used for marshalling of Waterloo and City stock.

The Waterloo and City line was modernised in 1939-40, when the previous centre rail operation was replaced by side rail electrification, and the present passenger stock introduced. After a period of store at Peckham Rye, No. 75S was modified to be compatible and remain useable on the line, and was probably also fitted with a compressor at this time. It returned to the line in 1943 and continued to work as before. The locomotive was withdrawn from service in October 1968, after certain items of electrical equipment had become burnt out, and it was moved to Wimbledon Park on 1st June 1969. It was then moved to storage at Preston Park, Brighton, before being conveyed to the National Railway Museum at York on 3rd December 1977.

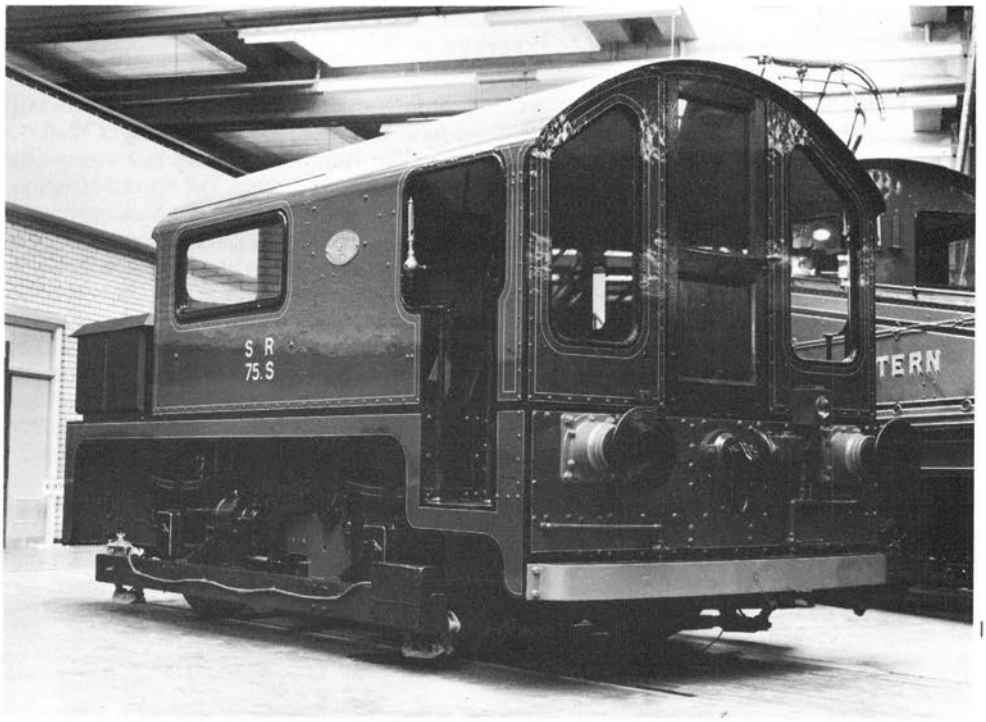
In May 1979, No. 75S took part in an exhibition at the NRM to celebrate the centenary of electric traction on rails. Later in the year it was restored, in the NRM main hall, to the orange-brown lined livery it carried in the days of the Southern Railway, and it remains on display there.



Right: Few people saw the Waterloo and City shunter No. 75S during her working life, and even fewer photographed her. This was the shunter's condition before the post-1940 modifications. *The late B.W. Anwell*



Left: As one of the locos stored at Preston Park, No. 75S was occasionally on view in Brighton station. Still in BR condition, she is taking part in an exhibition there on 23rd September 1972. *S.C. Nash*



After refurbishment at York, No. 75S has been regularly on show in the main hall of the National Railway Museum. *Copyright, National Railway Museum, York*

A second-hand purchase

It was unusual for a major railway company to buy locomotives second-hand from another, but the 'Terrier' No. W8 *Freshwater* is a rare survivor of such a transaction. This locomotive was built by the London, Brighton and South Coast Railway in 1877 as No. 46 *Newington*, one of fifty in William Stroudley's 'A' class (or 'Terrier') 0-6-0 tanks, and was used in her early years mostly on London suburban traffic. In April 1902 she was transferred to the LBSCR's duplicate list as No. 646.

In January 1903, Dugald Drummond asked the LSWR's Locomotive and Carriage Committee for permission to inspect, with a view to purchase, 'two small second-hand tank engines belonging to the Brighton Railway Company for use on the Lyme Regis Light Railway'. Even before the line was open, the LSWR appreciated that the motive power requirements of the Lyme Regis branch were going to be difficult to meet; a tortuous, steeply graded line, it seemed that no existing LSWR type was

Ex-LBSCR 'Terrier' No. 646, as LSWR No. 734, was used on the Lyme Regis branch when the line opened, and appears to be at Axminster in this early shot. *H.C. Casserley Collection*

suitable, and so it was planned to try LBSCR 'Terriers'. Drummond was given permission to proceed, on condition that the cost did not exceed £670 per locomotive. Six weeks later he was able to report that, 'it appears that that company is willing to sell to this company two of their small tank engines', and as the asking price was £1,000 for the pair, he recommended acceptance, which was approved. The two locomotives which the LSWR bought were 'Terriers' Nos. 646 and 668, which became LSWR Nos. 734 and 735 respectively, and were taken into LSWR stock in March 1903. Their Westinghouse brake equipment was removed, and after serving briefly during 1903 at Guildford and at Bournemouth, they proceeded to Exmouth Junction to be ready for service on the Lyme Regis branch.

The first passenger trains on the Lyme Regis branch ran on 24th August 1903, and the two 'Terriers', Nos. 734 and 735, worked the services together that day. Normally, however, one of them was sufficient, the two only working together at particularly busy periods. The line prospered in its early years, and by summer 1905 the peak holiday traffic was becoming too much for the two 'Terriers'; they were moved off the branch, and '02' class tanks took over until they, in turn, were replaced by Adams radial tanks from 1913.

Nos. 734 and 735 had been bought by the LSWR for one specific job, and having now been found inadequate for that job, they were difficult locomotives to place in suitable employment. No. 734 was tried in 1906 at Yeovil (on the Junction-Town services) and as station pilot at Bournemouth, and then went to Eastleigh in 1907 and was used on the Botley-Bishops Waltham branch. In September 1912 the locomotive received a new boiler, of Drummond pattern with safety valves mounted in the dome.

The period of uncertain employment ended for No. 734 in July 1913, when the locomotive was loaned to the Freshwater, Yarmouth and Newport Railway, with an option to purchase which was taken up in March 1914 for £900. LSWR No. 734 became FYNR No. 2, remaining at first in LSWR livery but later being repainted in FYNR bright green. The FYNR initially disputed the compensation terms offered at the 1923 grouping, so it was not until 1st September 1923 that its locomotives entered Southern Railway stock. From that point FYNR No. 2 became, in most respects, just one among a number of 'Terriers' operating on the Isle of Wight.

FYNR No. 2 became Southern No. W2, later W8, and was named *Freshwater*. The locomotive's main legacy of her years on the LSWR was the Drummond boiler, but this was replaced by an LBSCR Marsh boiler early in 1932. An LSWR element returned when it was decided, during the 1930s, to standardise the use of Drummond chimneys on all Island locomotives, and No. W8 was fitted with a 'B4' pattern chimney. But around the end of the war this was replaced by a Brighton copper-plated chimney, and so when No. W8 returned to the mainland in April 1949 she bore no discernable LSWR features.

Back on the mainland, No. W8 became No. BR 32646, and alternated between working from Fratton (on the Hayling Island branch) and Newhaven (shunting in the harbour) until withdrawn in November 1963. She was moved first to Droxford, on the Meon Valley line, in connection with the Sadler Vectrail project, and then to Hayling Island, in May 1966, for use as an outsize sign for the 'Hayling Billy' pub. Finally she was moved to the Isle of Wight in June 1979 for preservation on the Havenstreet-Wootton steam railway. Soon after arrival No. W8 was given the LSWR pattern chimney from the other Island Terrier, No. W11, and fitted with this the locomotive returned to traffic on the Isle of Wight Steam Railway in June 1981.

Finally restored, with an LSWR-pattern chimney, No. 734 as No. W8 *Freshwater* shunts ballast wagons at Wootton on 2nd November 1980.
Iain Whitlam/Isle of Wight Steam Railway

Boilers

Of the twelve surviving steam locomotives of LSWR origin, seven have boilers built by the LSWR when their respective classes were being built, two have boilers built by the LSWR at later dates, and three have boilers built by the Southern Railway.

Ex-LSWR boilers were numbered in July 1927 to carry the numbers of the locomotives to which they were fitted at that point. Exceptions were spare boilers and boilers of locomotives in the duplicate list, which were given various numbers as available.

'0298' class Nos. 298 and 314

The original boilers on these two Beattie well tanks were replaced when they were rebuilt in 1889. No. 298 received a boiler built in 1884 and previously fitted to well tank No. 195, while No. 314 received a new boiler. In 1921-22 the LSWR built three new boilers, under order K16, for the three survivors. These boilers were of the Drummond pattern, in that they had safety valves mounted on the dome. As no spare boiler was built, each locomotive retained its 1921-22 boiler until withdrawal. The boilers on the two survivors are:-

No. 298 - boiler No. 881 – first fitted December 1921
No. 314 - boiler No. 882 – first fitted September 1921

'0415' class No. 488

No. 488 retained its original boiler throughout its LSWR service, though new fireboxes were fitted in 1895 and 1905. This boiler accompanied the locomotive to the East Kent Railway, and was only parted from it in 1946 on the locomotive's return to the Southern. The boiler was then allocated the number 922 and became the spare boiler for the '0415' class. No. 3488 entered Southern service with a Drummond boiler, and ran with Drummond boilers until its final general overhaul in 1959. At this point No. 922 had become the spare again, and so locomotive and original boiler were reunited, and remain so in preservation. The history of boiler No. 922 is:-

New on No. 488 (3/85), to No. 30584 (4/48), to No. 30583 (2/59)

'O2' class No. W24

The 'O2' type of boiler was interchangeable between 'O2' and 'G6' classes, and in addition a number of Drummond pattern boilers were built for these locomotives. There is no record of No. W24 ever running with a Drummond boiler. The boiler fitted to No. W24 is No. 208, which has served as follows:-

New on 'O2' No. 178 (12/89), to 'O2' No. 184 (9/15),
to 'O2' No. 208 (10/26), to 'G6' No. 277 (11/30),
to 'O2' No. 232 (5/35), to 'O2' No. 228 (10/38),
to 'O2' No. 221 (1/44), to 'O2' No. 30225 (1/49),
to 'G6' No. DS3152 (1/55), to 'O2' No. W24 (2/65)

Thus the first three 'O2s' to which this boiler was fitted all became Isle of Wight locomotives (Nos. W14, W27 and W17 respectively), but the boiler itself remained on the mainland until sent to the Isle of Wight in January 1965.

'T3' class No. 563

The boilers fitted to the 'T3' class were also interchangeable with the 'T6' and 'X6' (but not the 'X2') classes. Some Drummond pattern boilers were fitted to these locomotives, but there is no record of No. 563 ever receiving one. The boiler fitted to No. 563 is boiler No. 685, of which the history is:-

New on 'X6' No. 661 (12/95), to 'T6' No. 685 (5/24),
to 'T6' No. 686 (3/32), to 'T3' No. 563 (9/35)

'B4' class Nos. 96 and 102

The Southern Railway built six new 'B4' boilers, to the original Adams pattern, in the 1930s, and both survivors have boilers from this batch. A few of the Adams 'B4s' carried Drummond boilers at some stage, but there is no record of either No. 96 or No. 102 ever receiving one.

No. 96 has boiler No. 1062:-

New on No. 90 (8/37), to No. 89 (7/41), to No. 30102 (12/50),
to No. 30096 (6/59)

No. 102 has boiler No. 1059:-

New on No. 84 (11/36), to No. 89 (1/48), to No. 30094 (5/50),
to No. 30102 (2/57)

'M7' class Nos. 53 and 245

The 'M7' type of boiler was technically interchangeable with the '700' class (before they were superheated), the 'K10' class (after the firebox water tubes were removed), and the 'C8' class. In practice 'M7' boilers mostly stayed with 'M7s'.

No. 245 has boiler No. 36:-

New on 'M7' No. 376 (5/03), to 'M7' No. 36 (1/20),
to 'M7' No. 479 (12/34), to 'M7' No. 668 (4/40),
to 'M7' No. 318 (3/48), to 'M7' No. 30034 (7/51),
to 'M7' No. 30245 (10/57)

No. 53 has boiler No. 246:-

New on 'M7' No. 671 (10/97), to 'M7' No. 42 (4/19),
to 'M7' No. 246 (10/24), to 'C8' No. 297 (11/31),
to 'M7' No. 42 (10/36), to 'M7' No. 252 (10/42),
to 'M7' No. 253 (10/47), to 'M7' No. 30251 (3/54),
to 'M7' No. 30053 (5/62)

'T9' class No. 120

The 'T9' type of boiler was at first technically interchangeable with the 'L11' class, but after the 'T9s' were superheated their boilers could only be interchanged among their own class. No. 120's boiler is No. 715 of which the history is:-

New on No. 712 (6/99), to No. 704 (3/09), to No. 708 (4/13)

It was then rebuilt to superheated form, and served as follows:-

To No. 715 (12/23), to No. 725 (5/31), to No. 718 (8/33),
to No. 312 (11/35), to No. 286 (3/39), to No. 725 (4/42),
to No. 310 (7/46), to No. 30289 (9/50), to No. 30120 (2/58)

'S15' class Nos. 499 and 506

The Urie 'S15' pattern of boiler was interchangeable among the whole 'N15' and 'S15' classes, and the '473' series of 'H15s'. The earlier Urie pattern of these boilers had Ramsbottom safety valves, while the later Maunsell pattern had Ross pop safety valves. Both Nos. 499 and 506 ran with both Urie and Maunsell pattern boilers at various times in their careers.

No. 499 now has a Urie boiler, No. 755, of which the history is:-

New on 'N15' No. 755 (3/23), to 'N15' No. 751 (6/29),
to 'H15' No. 474 (6/31), to 'S15' No. 505 (9/33),
to 'S15' No. 498 (8/37), to 'H15' No. 523 (4/40),
to 'S15' No. 511 (4/43), to 'N15' No. 739 (9/45),
to 'N15' No. 737 (1/48), to 'N15' No. 30755 (12/51),
to 'S15' No. 30509 (6/56), to 'S15' No. 30499 (2/61)

No. 506 was withdrawn, and bought for preservation, with Maunsell boiler No. 451, but this was replaced by Maunsell boiler No. 799 in February 1981. The history of boiler No. 799 is:-

New on 'KA' No. 799 (7/26), to 'KA' No. 451 (5/29),
to 'KA' No. 778 (3/31), to 'KA' No. 779 (5/33),
to 'N15' No. 747 (3/35), to 'KA' No. 781 (12/37),
to 'KA' No. 799 (12/39), to 'KA' No. 776 (11/43),
to 'S15' No. 839 (6/46), to 'S15' No. 30503 (1/50),
to 'S15' No. 30842 (7/52), to 'S15' No. 30825 (12/58),
to 'S15' No. (30)506 (2/81)

Tenders

Three LSWR tenders survive in preservation, and these are one typical example each of the work of Adams, Drummond and Urie. There are four preserved LSWR tender locomotives; the three LSWR tenders are attached to three of these, and the fourth, 'S15' No. 499, has a Maunsell tender, but built to the Urie pattern.

The Southern Railway numbered all tenders in 1926-27; in most circumstances neither the LSWR nor the Southern swapped tenders among similar locomotives, so the histories of the surviving tenders are relatively simple.

'T3' class No. 563

The tender attached to No. 563 in 1927 was given the number 146, and this tender remained with the locomotive until withdrawal and then in preservation. There is no record of any 'T3' being involved in a tender swap in LSWR or early Southern days, so we may take it that this tender is the original, which has served with the locomotive throughout.

Tender No. 146 is typical of the Adams pattern, being a six-wheel, outside framed vehicle carrying five tons of coal and 3,300 gallons of water. Originally it did not have coal rails, but these were fitted by Drummond and remained in place until they were removed at the locomotive's final restoration, to Adams condition, at Eastleigh in 1960.

'T9' class No. 120

No. 120 originally ran with a six-wheel, outside framed tender, but in June 1907 received an eight-wheel bogie tender, built with 'L11' class No. 442. This bogie tender was numbered 308 by the Southern, and served with the 'T9' until November 1956. It was then replaced by the present tender, No. 295 formerly attached to 'T9' class No. 30728. This tender had been attached to No. 728, as far as can be ascertained, since August 1902, when it was built with a 'K10' class 4-4-0, but was attached new to No. 728.

Tender No. 295 is an example of the Drummond 'water cart' bogie tender; it has inside framed bogies, and a capacity of 4,000 gallons of water and five tons of coal. These tenders were so called because the rivets attaching the bogies to the base of the tank often worked loose, causing the tender to spray water on the track. Like all Drummond tenders, No. 295 was fitted with coal rails when new, and these were reinforced with plating around 1930; as the locomotive is restored to BR condition, this plating appropriately remains in place.

'S15' class No. 506

No. 506's original tender was Urie bogie tender No. 3210, which the locomotive lost to an 'N15X' in 1935, and then ran until 1956 with a 'water cart' tender from withdrawn 'C8' class 4-4-0 No. 291. This was replaced by the present tender, No. 859, in September 1956; this tender entered service in November 1919 with Urie 'N15' class No. 745, and ran with this locomotive throughout its working life.

Tender No. 859 is of the same pattern as No. 506's original tender, that is an outside framed bogie tender carrying 5,000 gallons of water and five tons of coal. But in 1947, when the tender was running with 'N15' No. 745, the locomotive was converted to oil burning, and the tender was adapted accordingly. Though No. 745 was converted back to coal burning at the end of 1948, traces of this brief conversion are still visible on the tender.

'S15' class No. 499

No. 499 ran with her original Urie bogie tender, No. 3203, until two weeks before withdrawal, but then received six-wheel tender No. 882 which accompanied her to Barry. The tender bought for preservation with the locomotive is No. 3223, which ran with Maunsell 'S15' No. 826 until that locomotive's withdrawal; it then ran briefly with 'S15' No. 30825, which it accompanied to Barry.

Tender No. 3223, though built by the Southern, conforms to the Urie outside framed bogie pattern. Both preserved Urie 'S15s' are now paired with tenders which have run considerably higher mileages than the locomotives themselves.

Southern Railway locomotives based on LSWR designs

The Southern built further locomotives based on two Urie LSWR designs, the 'N15' and 'S15' classes, and thus locomotives of basically LSWR design were built as late as 1936. In the 'N15' case, the need was to put into service a substantial number of new express locomotives, more quickly than would be possible if a new design were developed and tested; the resulting locomotives became the 'King Arthur' class. On the other hand, the 'S15' design was perpetuated principally because the Southern, not a major mover of goods traffic, could hardly justify developing a completely new design to handle this traffic.

The modifications made by R.E.L. Maunsell, in his versions of these classes, were much the same in each case. The chassis and boiler were similar to those of the Urie types, though Maunsell used Ross safety valves where Urie had used a Ramsbottom pattern, and the boiler pressure was 200 lbs/sq. in, where Urie had used only 180 lbs/sq. in. The main alterations were at the front end in the areas of draughting, cylinders and valve gear.

One Maunsell 'N15' is preserved in the National Collection, while five Maunsell 'S15s' still exist, thanks to the Barry yard of Woodham Brothers.

No. 777 *Sir Lamiel* was built by the Northern British Locomotive Company in 1925 and worked initially from Nine Elms. Her main claim to fame, and thus to preservation, was made in the mid 1930s with a remarkable run from Salisbury to Waterloo with the up 'Atlantic Coast Express'. The 83.4 mile journey was covered in 72 min. 41 sec. with a load of approximately 345 tons, a performance which was reckoned to represent the absolute limit of 'King Arthur' class capability.

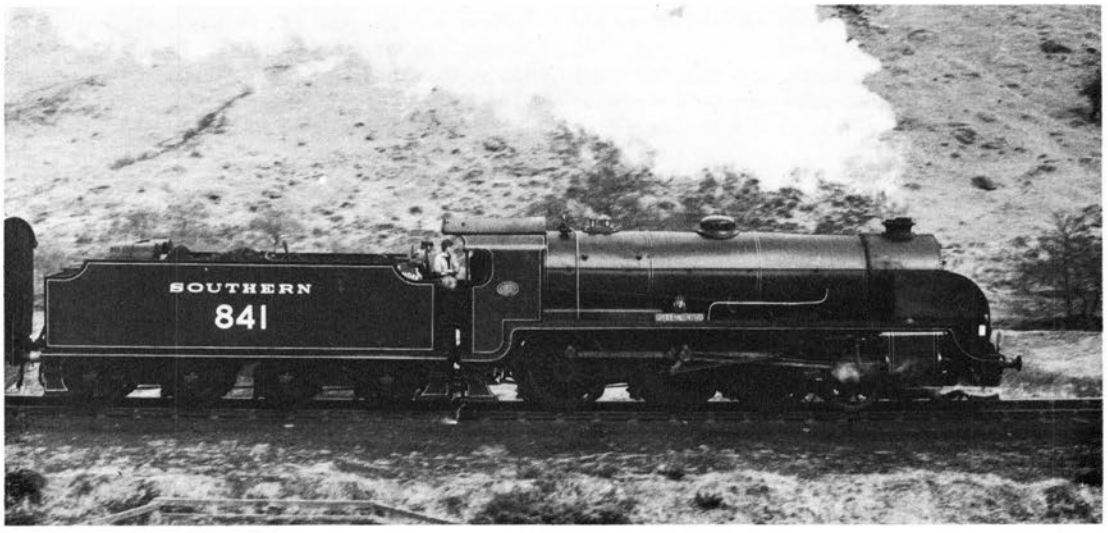
Apart from a few short spells on the Eastern Section, No. 777 worked continuously from Nine Elms until 1947, when she was moved to Eastleigh for 3½ years. As BR No. 30777, she worked on the Eastern Section from 1951, mostly based at Dover, until Kent Coast electrification meant her services were no longer required there. The locomotive then returned, in 1959, to the Western Section until being withdrawn in October 1961 with a final mileage of 1,257,638. After storage at various locations, *Sir Lamiel* was restored to working order at Hull by the Humberside Locomotive Preservation Group, returning to steam in 1982, and has since been used on a number of steam specials.

The five surviving Maunsell 'S15s' have no special claim to preservation; they were simply five of the six of the type sold by British Railways to Woodham Bros. of Barry in 1964. Nos. 825, 828 and 830 were in the batch of fifteen 'S15s' built at Eastleigh in 1927-28. Nos. 841 and 847 are from the 1936 batch of ten, also built at Eastleigh; No. 847 was, in fact, the very last 4-6-0 built by the Southern.

All these five locomotives, like many of the Maunsell 'S15s', spent the greater part (and in 825's and 828's cases, all) of their working lives on the West of England main line, based either at Salisbury or Exmouth Junction. They worked heavy freight, interspersed with regular passenger workings, on the Salisbury-Exeter section and on some other routes; some of them moved to Feltham to work out their last few months, following regional boundary changes in 1963.

No. 841 was purchased for preservation in 1972, and worked steam specials on BR in East Anglia in 1976 and 1977. No. 847 was bought in 1978 and No. 828 in 1980, and both these locomotives are now being restored. Nos. 825 and 830 have not yet been bought for preservation, and indeed No. 825 now lacks a boiler as this was bought for use as a replacement on Urie 'S15' No. 506.

No.	Name	Type	Built	Withdrawn	Location
777	*Sir Lamiel*	N15	6/25	10/61	National Railway Museum, York
825		S15	4/27	1/64	Barry (chassis only, no tender)
828		S15	7/27	1/64	Eastleigh
830		S15	8/27	7/64	Barry (no tender)
841		S15	7/36	1/64	North York Moors Railway
847		S15	12/36	1/64	Bluebell Railway



Maunsell 'S15' No. 841, restored from Barry, has kept the Southern flag flying on various lines well removed from SR territory. This is the 13.50 from Grosmont to Pickering, on the North York Moors Railway on 15th April 1979.
David Idle

Preserved LSWR carriages

All drawings to 4mm scale, with plan views to 2mm scale.

There are fourteen preserved LSWR carriages, twelve of them passenger carrying, and all of them built in the period from 1900 to around the Grouping in 1923. They illustrate the development of the basic types of coach over this period, while also including more exceptional vehicles such as dining cars and an invalid saloon. But they do not include any examples of the railway's pre-bogie stock, nor any with such early features as wooden underframes and arc-profile roofs. All are bogie coaches on steel underframes and with roofs of various semi-elliptical forms. We must also record the three preserved coaches of the Bodmin and Wadebridge Railway, and the LSWR coaches remaining in BR departmental service.

In the early years of the LSWR, the post of Carriage and Wagon Superintendent was combined with that of Locomotive Superintendent; Beattie and Adams performed both roles. In 1885 the jobs were separated, and the subsequent Carriage and Wagon Superintendents, both of them relevant to the preserved stock, were:-

William Panter	1885-1905
Surrey Warner	1906-1922

It is not really possible to associate either of these superintendents firmly with any marked changes in design policy, as it clearly is with the locomotive superintendents. External influences probably had more effect on design development.

While locomotive development tended to reflect a developing technology, the development of carriages was driven at least as much by the social needs of the travelling public. The need to provide comfort, refreshments and lavatories on long railway journeys became increasingly important, under the spur of competition from other railway companies; this led to the introduction of bogie stock and corridor coaches. The LSWR was a fairly early builder of bogie coaching stock, starting in the 1880s and producing it in large quantities from about 1895, but it was relatively late into the field of corridor stock, not building much of this until 1904.

Few LSWR coaches survived in normal BR service after about 1960, but a fair number remained in departmental or military use for much longer; most of the preserved coaches have histories of such use. These other uses meant that the coaches were fairly drastically altered inside, which must be the biggest reason why none of the preserved LSWR coaches is now in exhibition state or in normal passenger carrying use on a preserved railway. Several of them have found use as stores (at least for the time being), until the major works can be undertaken that will restore them to something like original condition.

A note on numbering

For many years the LSWR numbered each type of coach in separate series, e.g. a series for thirds and brake thirds, a series for composites and brake composites, etc., and coaches built to the same pattern were often given an assortment of numbers, as available, within the series. But in 1912 the railway introduced a renumbering scheme, to put all coaches into a single number series; within this series each class of coach (e.g. thirds, third brakes) was given a separate range of numbers. A number of thirds and third brakes retained the same number after 1912, but everything else was renumbered; however, each existing series was simply moved to its new position in the single series, with some adjustments to fill gaps, and no attempt was made to group coaches of the same pattern together.

A further renumbering followed the formation of the Southern Railway in 1923, to bring the carriages of the constituent companies into a single series. This time coaches of the same pattern were grouped together, with the older patterns of coach in each class normally receiving the lower numbers.

The number ranges relevant to preserved LSWR carriages are given below; the Southern Railway number ranges only refer to ex-LSWR coaches.

In addition to their LSWR and Southern numbers, most of the preserved LSWR coaches later had departmental or military numbers, reflecting their use in their later years of service.

Passenger luggage vans were numbered in the range 5001-5529 from 1912, but were renumbered by the Southern into a separate series, for non-passenger coaches, where the ex-LSWR vans occupied the range 1251-1691.

Class	LSWR 1912	SR (ex-LSWR) 1923
Third	1– 933	1– 743
Third brake	1251–2053	2601–3202
Composite	2251–3116	4501–5132
Composite brake	3501–3654	6401–6559
Saloons	4101–4151	7801–7851

The Bodmin and Wadebridge coaches

These coaches never ran on the LSWR as such, and their origins and history are obscure; yet they ran on a railway owned for many years by the LSWR, and they were preserved by the LSWR at a date when railway preservation hardly existed at all. So they clearly merit inclusion.

In 1895 the LSWR physically reached the Bodmin and Wadebridge Railway, which it had owned for almost fifty years. Five vehicles, including the entire passenger stock of the railway, were immediately placed in store by William Panter, the LSWR carriage and wagon superintendent at the time, who clearly recognised their historic interest. Three of these vehicles are now preserved in the National Collection; these are three carriages, a first/second class composite, a second class and a third class. Apart from their wheels and running gear they are constructed almost entirely of wood.

The composite coach is by far the most elaborate of these coaches. It was originally a three compartment first class, with curved quarter lights, but the two outer compartments were later downgraded to second class and their internal fittings accordingly made less ornate. It is 14ft. long over the body, 16ft. over the buffers, and weighs 3¼ tons. All these preserved Bodmin and Wadebridge coaches are around 6ft. 6ins. wide, and both the covered vehicles are 8ft. 5in. in height.

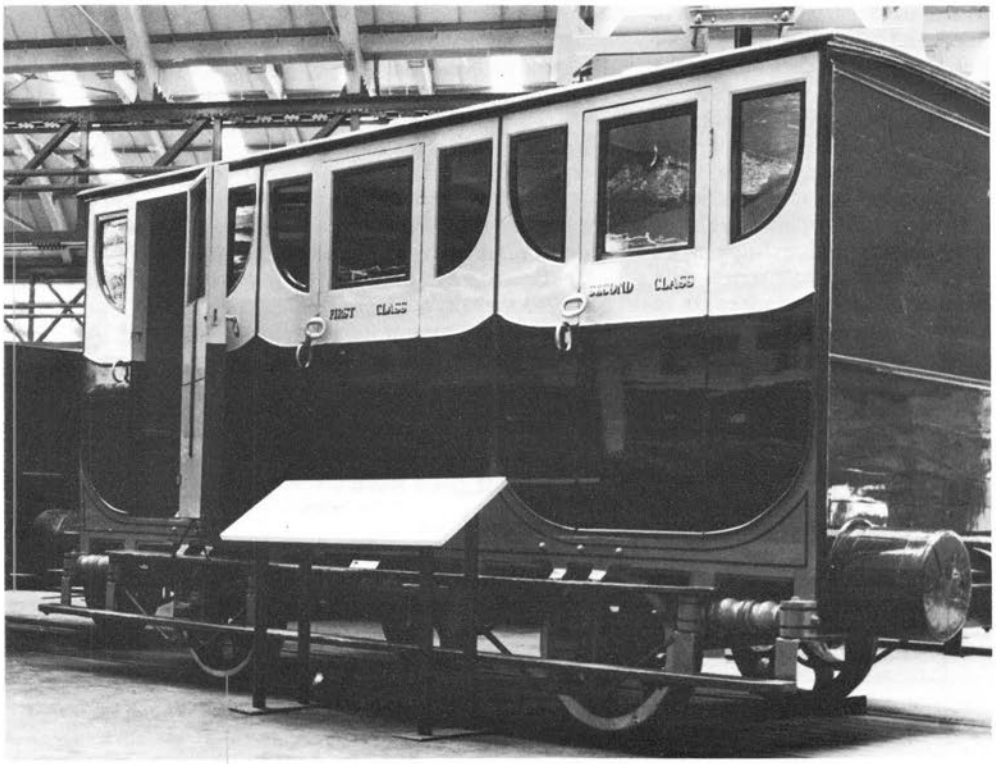
It is clear from contemporary drawings and early reports that this coach was not present when the line opened. It is known that two coaches, at least one of them a composite, were sent by the LSWR to the B&WR in March 1855, with the locomotive *Pluto*, and it seems probable that the surviving composite is one of these. If so, it is of very early LSWR construction and may even date from the London and Southampton Railway. It has been likened to main line stock of the period, with curved quarter lights and other suggestions of stage coach ancestry, so this does seem quite likely. If this is true, then we do have an example of LSWR pre-bogie, wooden framed, arc roofed passenger stock.

After being preserved by Panter, this composite coach was placed on display on a pedestal at Waterloo station, where it became a well known landmark. It was decorated with flags in 1934 to mark the centenary of the Bodmin and Wadebridge Railway, but it was removed in July 1940, following the outbreak of the Second World War, and it was placed in store. It was restored at Eastleigh in 1960 to blue and cream livery, and then put on display in the Clapham Museum of Transport. After this museum closed in 1973, the coach was moved to the National Railway Museum at York.

The composite, though in some ways primitive, appears quite sophisticated by comparison with the other coaches. The second class coach is a much more basic vehicle; it has two compartments, without quarter lights, making it very dark inside. Its body length is 10ft., and it is 11ft. 8in. over the buffers and weighs 2¼ tons. No coach like this appears in drawings of trains on the opening day, so it must be a later addition. It may possibly have been the second coach sent by the LSWR in 1855, but it may well have been constructed locally.

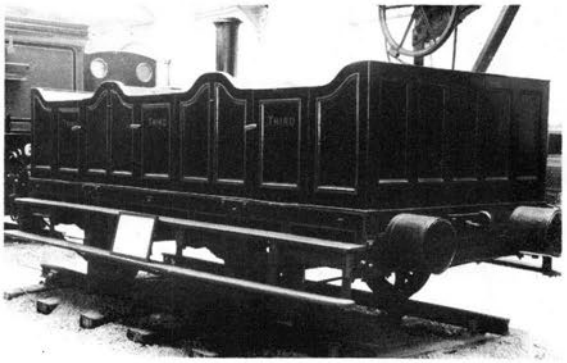
The second class coach, after being preserved, was on display at one time on the former terminal platforms at Kingston-upon-Thames. It then went, probably in the early 1930's, to the old railway museum at York, and is now at the National Railway Museum. It is painted blue all over.

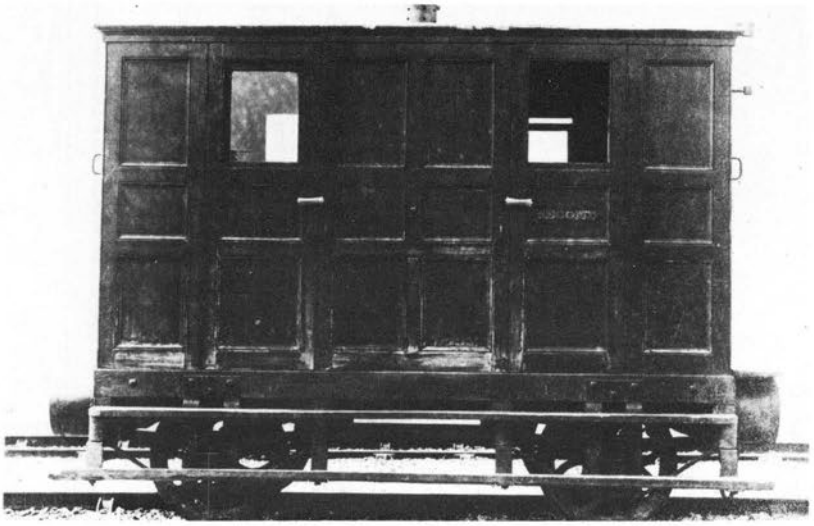
The third class coach is open, and this really means 'open', as it is little more than an open wagon with seats and with doors to give access to those seats. It has three compartments, and its body length is 15ft., or 17ft. over the buffers; it weighs 2 tons 18 cwt. Its origins are completely obscure and it is assumed it was built locally by or for the the B&WR. This coach was on display for some years at the old railway museum at York, and it is now at the National Railway Museum.



The Bodmin and Wadebridge Railway composite coach at York, splendidly restored, with its stage coach ancestry clearly evident.

Copyright, National Railway Museum, York





Above: Most basic of the Bodmin and Wadebridge coaches is the third class, which nevertheless has its panelling and curves, which are well brought out in restoration.

L&GRP Collection, courtesy David and Charles

Left: The B&W Railway second class coach, of unknown origin; a distinctly austere vehicle.

L&GRP Collection, courtesy David and Charles

Third class coach No. 1228

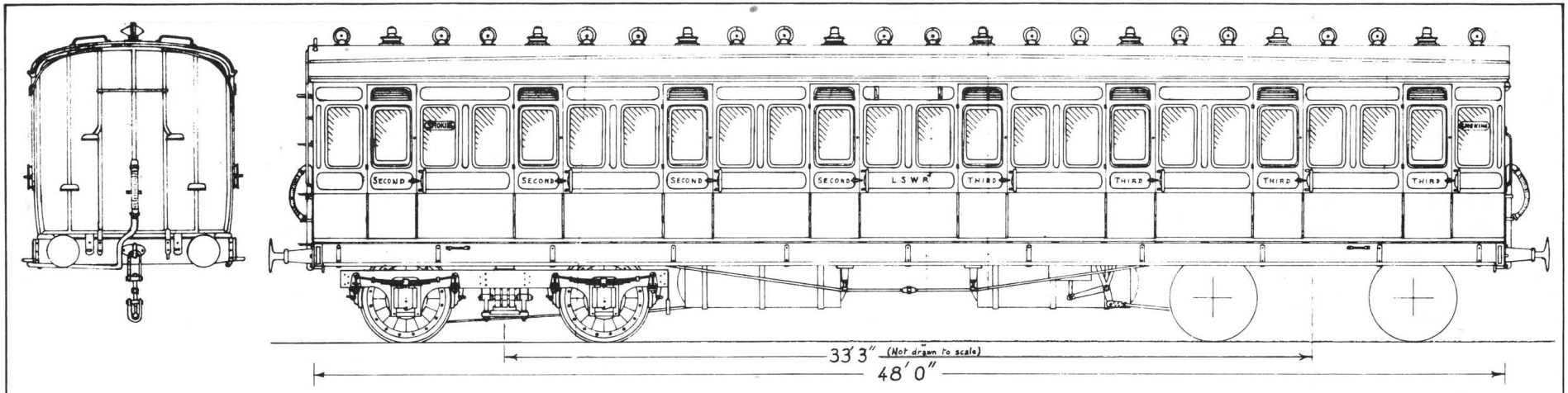
From the mid 1880s the LSWR was building bogie coaches, and from the early 1890s its coaches were fitted with roofs of semi-elliptical profile. During the 1890s the railway built many more bogie coaches, at the same time taking advantage of the fact that bogie coaches could be much longer than the old four and six-wheelers. During the 1890s the lengths of LSWR coaches steadily advanced, starting around 42 ft. and gradually increasing to around 50 ft.; in the early 1900s a new standard of 56ft. was established for most new construction. But in the 1890s all these coaches were still built on wooden underframes.

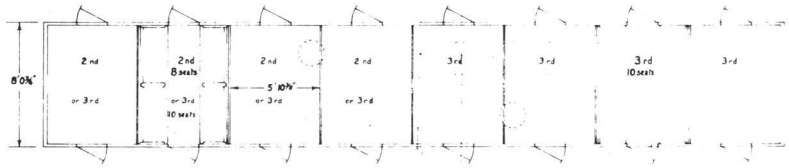
In 1894 the railway introduced a pattern of 3rd class coach, to drawing 772, which continued to be built until 1902 and was the LSWR's most numerous single pattern of coach. Over three hundred were built, plus thirty five 2nd/3rd class composites which were structurally identical, and which became quite identical when second class travel was withdrawn in 1918. All these coaches were later classified as diagram 12 by the Southern Railway, and they made up just over half the total stock of locomotive-hauled ordinary third class coaches which the Southern Railway inherited from the LSWR in 1923.

No. 1228 was completed in March 1900, to drawing 772, and was used initially on main line work. It was 48ft. long, on a wooden underframe, and had eighty third class seats in eight compartments. Within a few years the railway was building longer coaches, on steel underframes, causing coaches like No. 1228 to be downgraded to lesser duties. From then on, and for many years, such coaches formed the backbone of the railway's stock for a wide range of secondary duties. No. 1228 became coach No. 288 in 1916, under the LSWR's renumbering scheme of 1912, and then No. 320 in the Southern Railway's list. In Southern days No. 320 was not allocated to a permanent set, but ran as a 'loose' coach.

By the 1930s coaches like No. 320, with wooden underframes, were considered outmoded, and so, rather than build new non-corridor stock for secondary work, the Southern began a modernising exercise. No. 320 was rebuilt in March 1935 on a 58ft. steel underframe, with a further compartment and two toilets spliced into the centre; as rebuilt the coach was classified under diagram 31. It continued to serve on secondary and branch line traffic, still as a loose coach, until being withdrawn in July 1959. Latterly it operated in the area between Portsmouth and Weymouth.

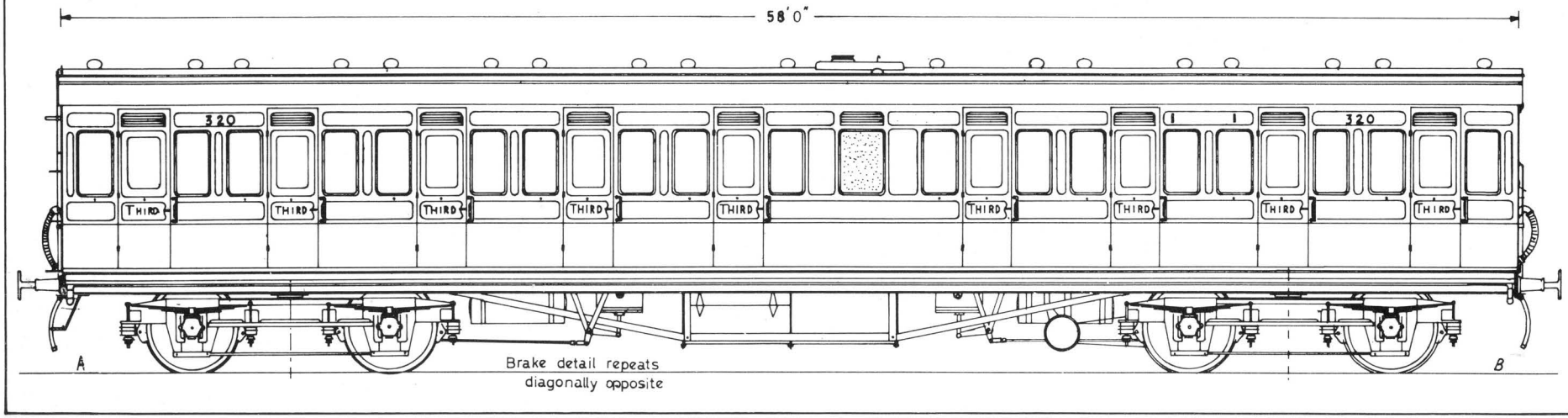
This coach's particular claim to fame is that it was one of the two coaches in the Bluebell Railway's first train, delivered to the railway from Brighton on 17th May 1960. No. 320 arrived on the Bluebell Railway in BR green livery, but it and its companion, Maunsell Compo. Brake No. 6575, were then painted plain blue, without numbering or lettering, and ran all the Bluebell's services in the 1960 season. Repainted a different shade of blue in 1965, No. 320 continued in regular use, mostly on ordinary trains but sometimes on the 'Blue Belle Limited' train, until withdrawn from service about 1971. The base woodwork was found to have deteriorated badly, and so the coach was placed in store, under cover, until such time as restoration work can be carried out.



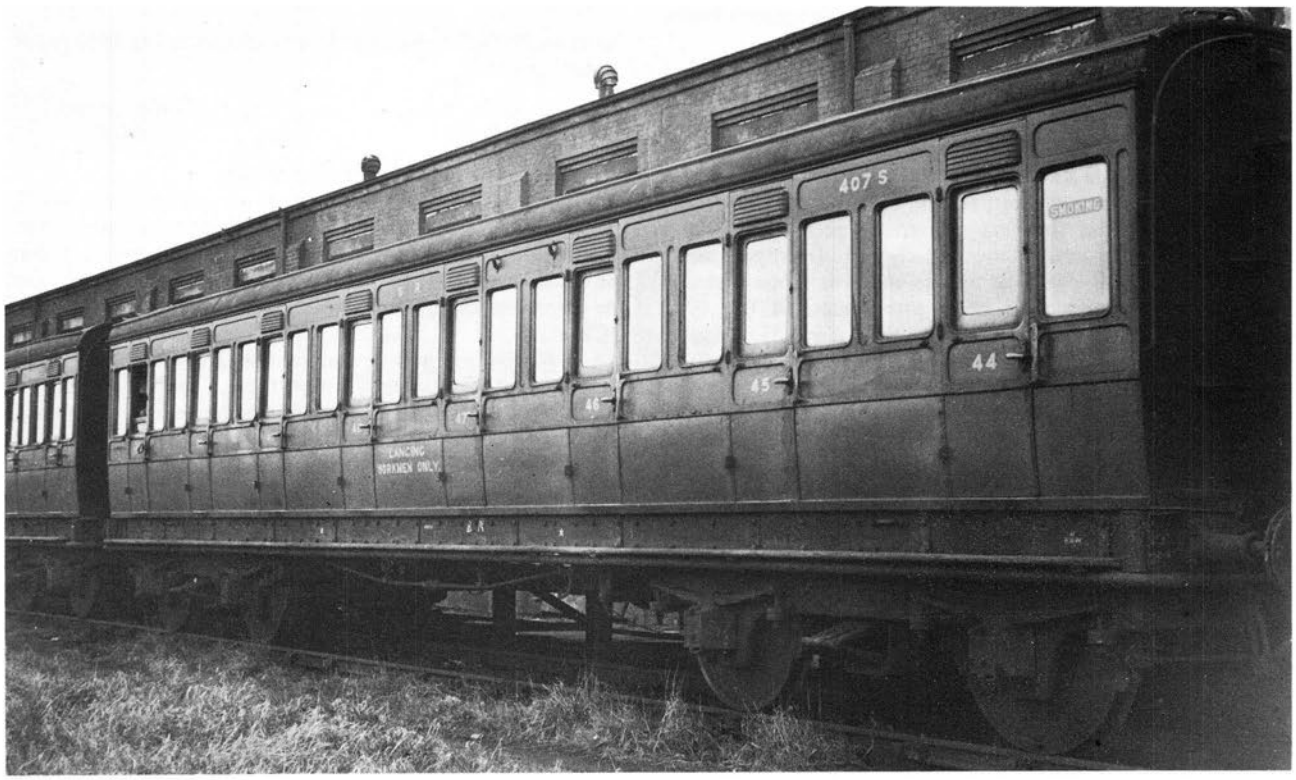


Above: The original 48ft form of a 3rd class coach such as No. 1228 (SR No. 320) is shown in this drawing of the structurally identical 2nd/3rd class composite.
G.R. Weddell

Below: The 1935 rebuilding of SR No. 320 added an extra compartment and a pair of lavatories amidships.
G. Bixley



Length	58ft. 0in. (originally 48ft. 0in.)	Completion date.....	March 1900
Width.....	8ft. 0¾in.	Cost.....	£715-0-6
LSWR Drawing No.....	772	Numbers:- LSWR - 1228 (3/00), 288 (1916)	
SR Diagram No.....	31 (originally 12)	SR - 320 (after 1923)	
Weight.....	30 tons (originally 21½ tons)	BR - S320S	
Number of seats.....	86 (originally 80) third class		



Above: Third class coach No. 407S (ex SR No. 425) in use on the Lancing Works train in 1947; this was the original 8-compartment form of a coach such as No. 1228 (SR No. 320), now preserved on the Bluebell Railway.
R.C. Riley

Right: An historic moment on the Bluebell Railway; SR coach No. 320, next to the locomotive arrives at Horsted Keynes on 17th May 1960 in the line's first delivery of rolling stock.
The late Derek Cross

Below: Latter-day condition – coach No. 320 as stored under cover, on one of its rare trips into daylight at Horsted Keynes; 6th April 1985. *P. Cooper*

Tri-composite Brake No. 847

In the early years of the century, a railway like the LSWR had to provide first, second and third class accommodation on its trains. Many single-class coaches were built (mostly firsts and thirds – there were very few seconds), but composite coaches, offering more than one class of accommodation, were also plentiful. The extreme case was the tri-composite, offering all three classes, or even the tri-composite brake, with a guards/brake compartment as well.

Tri-composite brake No. 847 was completed in December 1903, to drawing No. 1190, and was one of a batch of ten coaches, Nos. 844-853, built to this drawing between November 1903 and March 1904. This is the earliest surviving LSWR coach which was originally built on a steel underframe. It was built with a pair of compartments each of first, second and third class accommodation, giving ten first class, fourteen second class and eighteen third class seats; between each pair of compartments there were a pair of toilets, so though this was a non-corridor coach, each passenger had access to a toilet. In the 1912 renumbering, tri-composite brakes Nos. 844-853 became coaches Nos. 3595-3604, with No. 847 duly becoming No. 3598 in April 1914, and when second-class accommodation was discontinued, the second-class compartments were downgraded to third class, giving a complement of ten first-class and thirty six third-class seats. This coach ran as part of a 2-coach set in LSWR days.

Nos. 3595-3604 were renumbered 6471-6480 by the Southern Railway, No. 3598 becoming No. 6474 in February 1926. By 1931, No. 6474 was part of SR 3-coach set 95, made up of:-

Brake 3rd		Lav. compo.		Brake compo.
2728	+	4684	+	6474

working in the Exeter area. It was transferred in 1936 to set 51, made up of:-

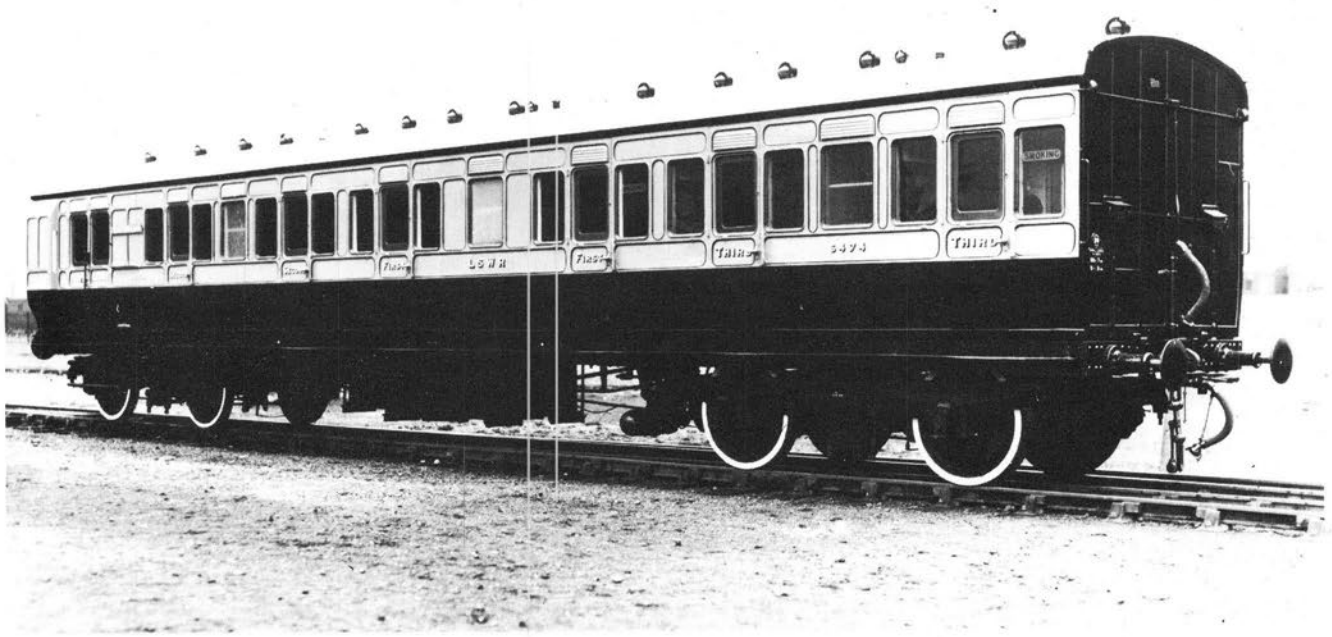
Brake 3rd		Brake compo.
2626	+	6474

which again worked in the Exeter area.

No. 6474 was withdrawn from normal service in May 1948 and refurbished at Eastleigh to 1903 condition to take part in the Waterloo station centenary celebrations. After being on display at Waterloo with 'T3' class No. 563 the coach was stored, initially in Farnham electric carriage depot and later at Clay Cross (Chesterfield).

No. 6474 is now at the National Railway Museum, York, but has not been on public view there. During 1982 first steps were taken towards restoring this coach to exhibition state once more, but the resources had to be diverted elsewhere, so the job was not completed. However, it is hoped that this restoration can be finished before long.

Length	56ft. 0in.	Number of seats.....	(10 first class (14 second class (18 third class
Width.....	8ft. 6¾in.		
LSWR Drawing No.....	1190		
SR Diagram No.....	407	Cost	£1086-6-10
Weight.....	27 tons 5 cwt	Numbers:- LSWR -	847 (12/03), 3598 (4/14)
Completion date.....	December 1903	SR -	6474 (2/26)



The restoration of the tri-composite brake in 1948 called for an official photograph. Unfortunately the SR number 6474 is hardly compatible with the LSWR livery. *By courtesy of National Railway Museum, York*

Four-coach non-corridor sets

Between 1904 and 1910 the LSWR built a series of thirty nine 4-coach non-corridor sets to the older, narrower, width of 8ft. 0¾ins., for use on various main line workings. Each set comprised two third brakes, a first/third composite and a second/third composite; the latter became an ordinary third when second class travel was withdrawn in 1918.

These sets remained intact for many years, though they were mostly reduced to 3-car sets in the late 1930s. Two individual coaches from these sets survive, namely a first/third composite and a third brake.

The 1904 pattern 4-coach non-corridor sets, reduced to three coaches (two third-brakes and a composite), remained a familiar sight into BR days. Set No. 130 is at Fareham on 23rd May 1953.
Pamlin Prints, Croydon

First/third composite No. 959

The thirty nine first/third composites in these sets were built to drawing No. 1298 and numbered between 10 and 1011 in the list of composites and composite brakes; No. 959 was one of these, and was completed in December 1907. The layout of these bi-composites was quite different from that of tri-composite No. 847. There were five first class compartments, giving a total of twenty six first class seats; apart from the end compartment, which had no lavatory access, each pair of first class compartments was separated by a bay containing a pair of lavatories. In addition there were two third class compartments with twenty seats.

In the 1912 renumbering, the thirty nine bi-composites received numbers between 2260 and 3108, composite No. 959 becoming coach No. 3078 in February 1919. In the Southern Railway's renumbering they became Nos. 5033-5071, and No. 3078 was renumbered 5065 in January 1925. An odd coincidence is that, after second class travel was discontinued, these two surviving composite coaches, Nos. 5065 and 6474, both offered a total of forty six seats, though in quite different combinations and layouts.

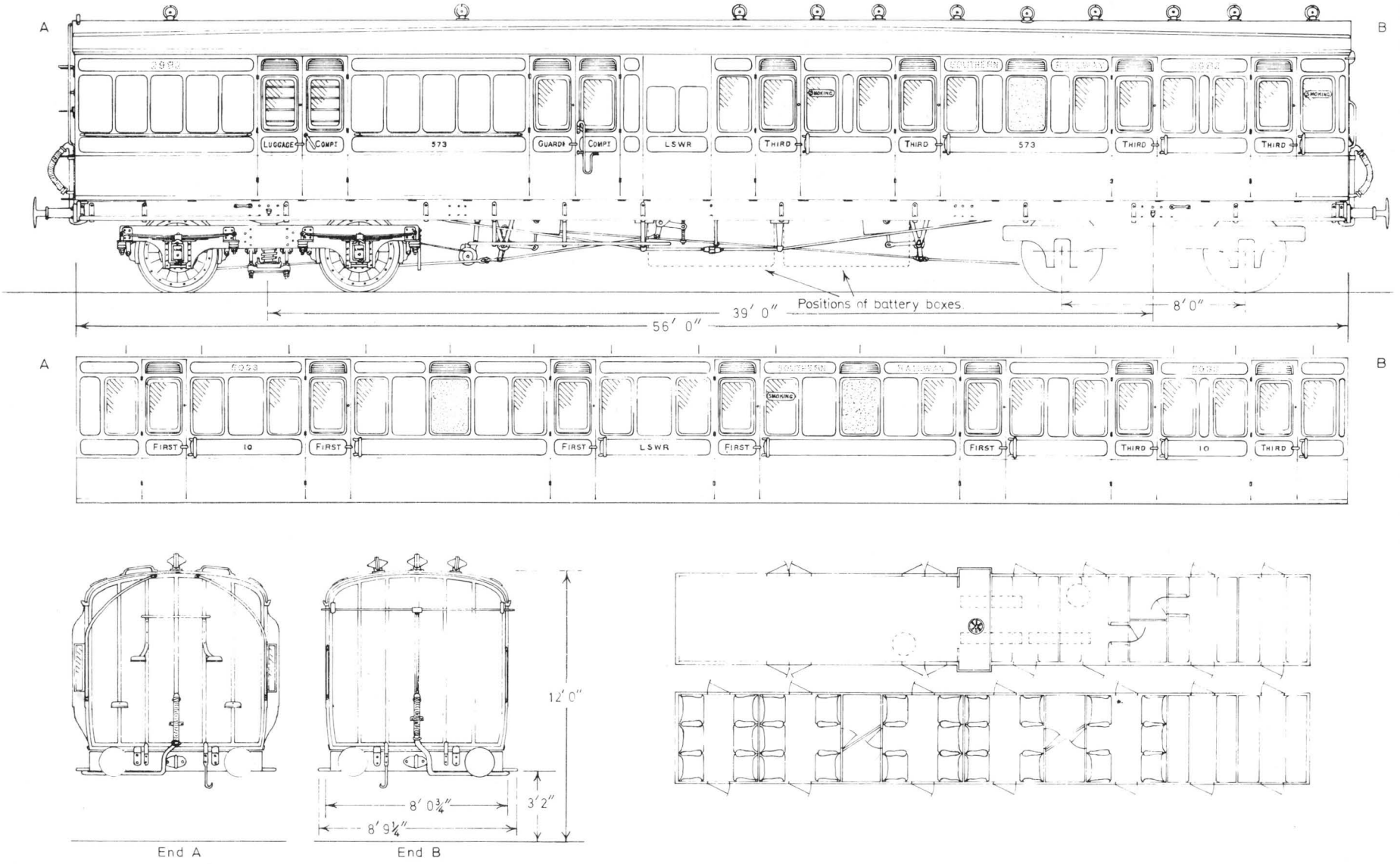
In Southern Railway times, No. 5065's set became set 134, made up of:-

Brake 3rd		Lav. 3rd		Lav. compo.		Brake 3rd
2960	+	614	+	5065	+	2961

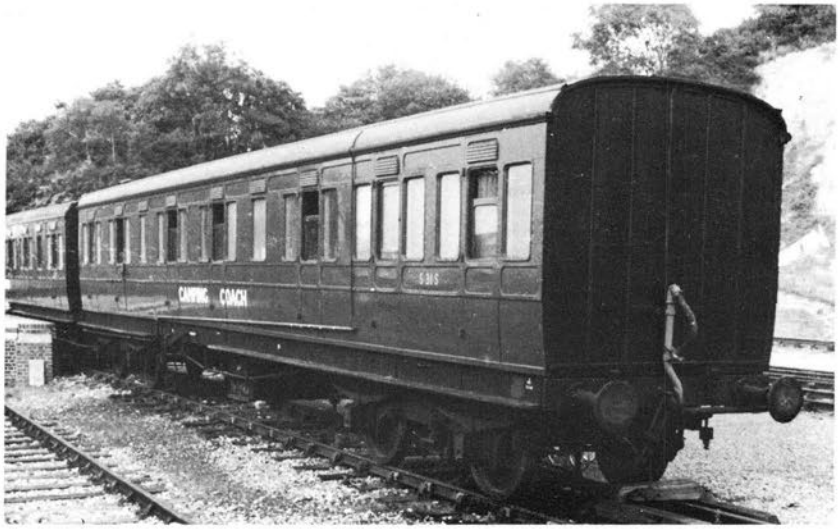
and used on South Western Division stopping services. In 1937 this set was reduced to three coaches by the removal of the lavatory 3rd (former second/third composite), and No. 5065 was modified, the single first class compartment at the end being altered to third class.

Set 134 continued to work on the S.W. Division and was withdrawn in March 1953; No. 5065 was then converted to a camping coach as S31S. It served in this form at several West Country locations including, it is believed, Combpyne on the Lyme Regis branch and Bere Ferrers, and was later transferred to Western Region stock as W31S, following the Western Region takeover of the old Southern territory west of Salisbury in 1963. Later the coach was transferred for departmental use at Southall, and was then sold to the Kent and East Sussex Railway at Tenterden in 1970. There it is in use as a store by the carriage and wagon department.

Length	56ft. 0in.	Completion date.....	December 1907
Width.....	8ft. 0¾in.	Cost.....	£1183-19-0
LSWR Drawing No.....	1298	Numbers:- LSWR	- 959 (12/07), 3078 (2/19)
SR Diagram No.....	274	SR	- 5065 (1/25)
Weight.....	26 tons	BR	- S31S (1953), W31S (1963)
Number of seats.....	(26 first class (20 third class		



The third brake and first/third composite from the 1904 pattern of non-corridor stock; one of each of these types of carriage is preserved. *G.R. Weddell*



Almost the final role of the preserved bi-composite No. 959 was as a camping coach, No. S31S; the original layout of compartments is still apparent. *Lens of Sutton*

Third brake No. 1520

No. 1520 was completed in March 1910 and was one of seventy four third brakes built to drawing No. 1446 for use in these sets, and numbered between 101 and 1547 in the list of thirds and third brakes. This type had a large guards/luggage area at one end, guard's look-out amidships, and four third class compartments, giving thirty eight third class seats; the middle two compartments had access to a bay of two lavatories located between them. Like a large number of thirds and third brakes, No. 1520 was not renumbered in the 1912 scheme, though technically it changed from being No. 1520 in the list of thirds and third brakes to being No. 1520 in the single list of coaches. After 1912 the seventy four coaches of this type were numbered between 1362 and 1896. Under the Southern Railway they became Nos. 2925-2998; No. 1520 became No. 2975 in October 1928 and received the Southern's livery at the same time.

No. 2975's sets became SR set 146, comprising:-

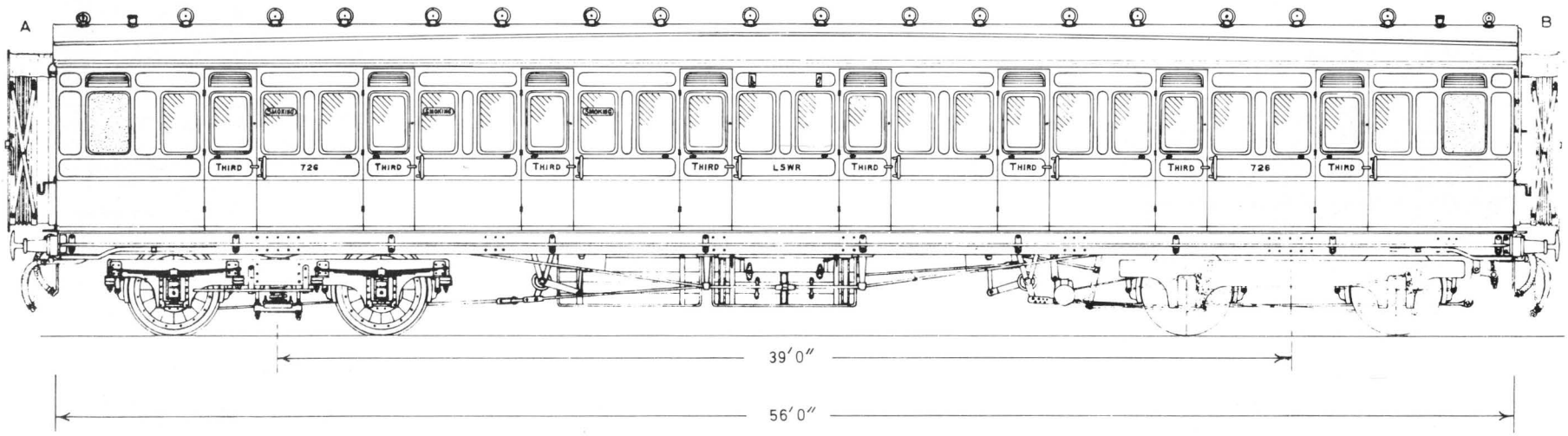
Brake 3rd		Lav. 3rd		Lav. compo.		Brake 3rd
2974	+	623	+	5050	+	2975

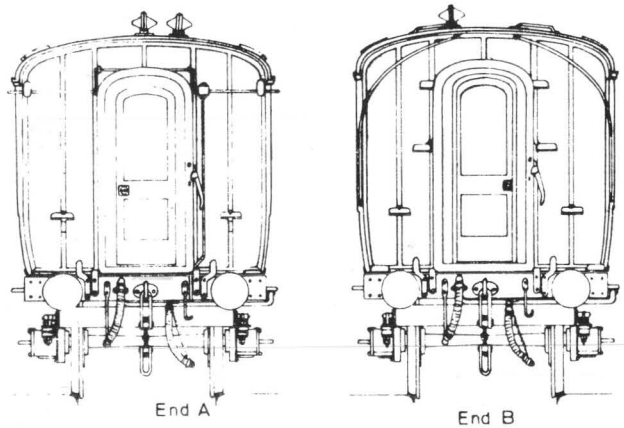
which was reduced to a 3-car set in 1937 by the removal of No. 623.

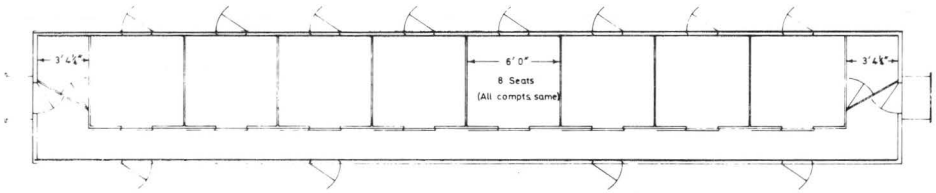
No. 2975 was withdrawn from normal service in August 1948 and was then transferred to departmental use as DS1119; it was used as a rail ambulance van at Feltham and later at Hither Green. DS1119 was finally withdrawn in December 1969 and sold to the Merchant Navy Locomotive Preservation Society for use as a mobile workshop. The coach was later sold to the Bluebell Railway, where it arrived on 14th June 1977. It is now painted red and is in use in the railway's fire brigade train.

Length	56ft. 0in.	Completion date.....	March 1910
Width.....	8ft. 0¾in.	Cost.....	£787-15-2
LSWR Drawing No.....	1446	Numbers:- LSWR	- 1520 (3/10)
SR Diagram No.....	124	SR	- 2975 (10/28)
Weight	25 tons	BR	- DS1119 (1948)
Number of seats	38 third class		

The preserved non-corridor third brake, from one of these sets, spent its latter days as mobile first aid coach No. DS1119, based at Feltham; 16th July 1965. *J.H. Aston*







The 1904 pattern of corridor third, one of a wide range of vehicle types built by the LSWR between 1904 and 1920. *G.R. Weddell*

Corridor third No. 494

The LSWR introduced corridor coaches into its main line services in significant numbers in 1904; the main commercial reason for introducing corridor stock was to give passengers access to the railway's new dining saloons, which were often marshalled into the corridor sets on long distance express workings, though access to lavatories from all compartments must have been welcomed by long distance passengers.

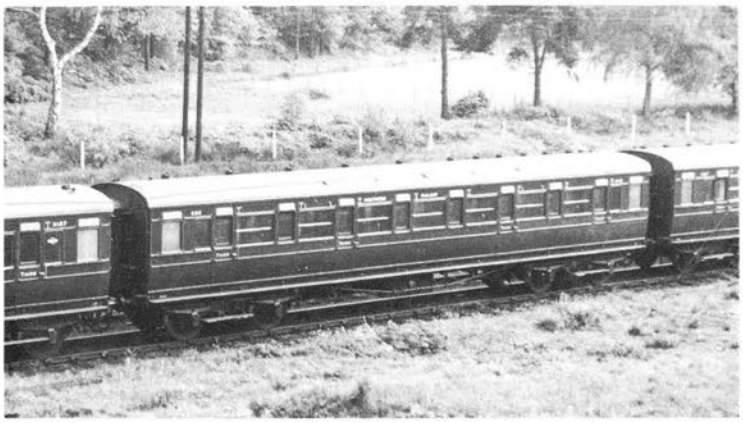
These coaches introduced on the LSWR the corridor coach in the form familiar over the next half century, and still in use in BR Mark 1 corridor stock. Though the internal layout appears relatively modern, the coaches retained the 1890s style of semi-elliptical roof profile. The corridor thirds among these coaches were all built to one basic pattern, of which three variants existed between 1904 and 1916; various types of brake third and composite were also built, plus a few firsts and composite brakes. Corridor third No. 494 is the only survivor of these coaches, and the only preserved LSWR ordinary corridor coach of pre-First World War vintage.

No. 494 was completed in October 1911 and was one of twelve coaches built to drawing No. 1872; this was a variation of drawing No. 1226, to which the first LSWR corridor thirds were built, starting in 1904. These coaches had eight third class compartments giving a total of sixty four seats, a side corridor, and a lavatory at each end. The LSWR employed this and similar coaches in corridor sets on main line express workings, usually in 5-coach formations. No. 494 was one of the many third class coaches which retained the same number after the 1912 renumbering.

Under the Southern Railway this coach was renumbered 673, as one of a series of thirty five corridor thirds numbered from 662 to 696, comprising the surviving coaches built to LSWR drawings Nos. 1226, 1872 and 2390. Southern-built coaches (and later LSWR types) now worked most of the main express traffic, and coach 673 was used in 6 to 8 coach sets 339, 341 and 338 on S.W. Division excursions and special traffic. It was withdrawn at the end of 1953 and was heavily modified inside, to become Camping Coach No. S39S; in this form it served in the West Country at such places as Braunton and Barnstaple. It was transferred to the Western Region in 1963, as W39S, but ceased to be used as a camping coach in 1964, and was then used as a mess coach at St. Blazey and as a wagon control office at Westbury.

W39S was finally withdrawn in September 1974 and it was then purchased by the Bluebell Railway. It is now stored under cover awaiting the extensive attention needed to restore it to running condition.

Length	56ft. 0in.	Completion date.....	October 1911
Width.....	8ft. 6¾in.	Cost.....	£1051-6-9
LSWR Drawing No.....	1872	Numbers:- LSWR	- 494 (10/11)
SR Diagram No.....	21	SR	- 673 (post 1923)
Weight.....	27 tons 5 cwt	BR	- S39S (1954), W39S (1963)
Number of seats.....	64 third class		



The 1904 corridor stock is typified by SR No. 692, seen here at Walton-on-Thames.
F. Foote

Later condition, and much in need of restoration. The survivor, former camping coach No. S39S (SR No. 673) sees the light of day briefly at Horsted Keynes, on 6th April 1985.
P. Cooper

Dining saloons Nos. 70 and 76

The LSWR was comparatively late in introducing dining cars, which many other railways were bringing into service in the 1880s and 1890s. After exploratory trials with mobile kitchens, starting in 1901, the railway introduced its first purpose-built dining saloons in 1904. The first batch comprised eight vehicles, saloons Nos. 59-66, and these were followed by a modified version of which eleven, Nos. 67-77, were built in 1907-08 to drawing 1601. Another four with further modifications, Nos. 78-81, were built in 1910 and 1912; the modifications included the use of double-framed 'Dreadnought' bogies, which were later fitted to most of the earlier saloons, including the two preserved. These twenty three dining saloons were notable as the only LSWR coaches, apart from one rebuilt Royal Saloon, to have clerestory roofs, which had briefly become fashionable again, particularly on dining cars, around this period. These dining saloons were mostly used on the West of England main line.

No. 70 was completed at Eastleigh in May 1907, and No. 76 followed in August 1908. The internal layout comprised a first class dining saloon, seating eleven, at one end, a second and third class dining saloon, seating seventeen, at the other end, and a kitchen and adjoining pantry in the centre. In the 1912 renumbering these two saloons became Nos. 4132 (July 1919) and 4138 (January 1913) respectively, and on formation of the Southern Railway they were renumbered 7832 and 7838.

In 1931 the Southern Railway replaced the clerestory roofs of these saloons with roofs of normal contour, and fourteen of the twenty three saloons, including the two preserved, were reclassified as 'nondescript' saloons when the kitchen and pantry were replaced by two compartments seating six each, and two lavatories. In this form both these coaches became part of special traffic set No. 332, comprising seven of these saloons and an ex-SECR 'Birdcage' corridor brake composite at each end.

In 1943 both these saloons were converted to ambulance coaches, No. 7832 becoming War Department stock as WD1641 and No. 7838 being taken over by the United States Army Transportation Corps as US202. Both were based at Netley Hospital, near Southampton, for several years, before moving to the Longmoor Military Railway in the mid 1950s, where WD1641 (7832) became AD3321 and US202 (7838) became AD3019. While at Longmoor AD3019 was converted for use on breakdown trains by fitting a roller door at one end, in August 1961; it remained at Longmoor until February 1969 when it was moved to the Bicester Military Railway. Meanwhile AD3321 had been moved to the Marchwood Military Railway and was used as a cinema coach.

Saloon No. 70 (AD3321) was purchased in 1978 and is used as a store by the carriage and wagon group of the Mid-Hants Railway at Ropley. Saloon No. 76 (AD3019) was purchased in July 1977 by a member of the Urie S15 Preservation Group, and is now used by this group at Ropley, also as a store.

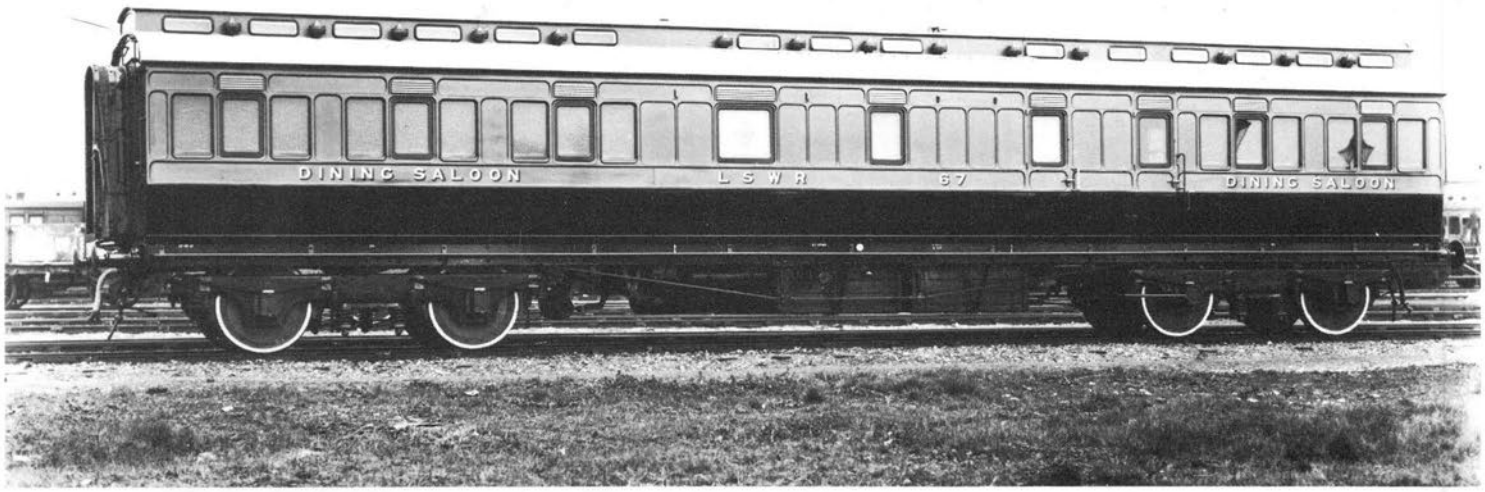
Length	56ft. 0in.
Width.....	8ft. 6¾in.
LSWR Drawing No.....	1601
SR Diagram No.....	590
Weight.....	34 tons
Number of seats.....	(11 first class (17 third class

No. 70

Completion date.....	March 1907
Cost.....	£1521-17-2
Numbers:- LSWR -	70 (5/07), 4132 (7/19)
SR -	7832 (3/25)
Military -	WD1641 (1943), AD3321 (1955)

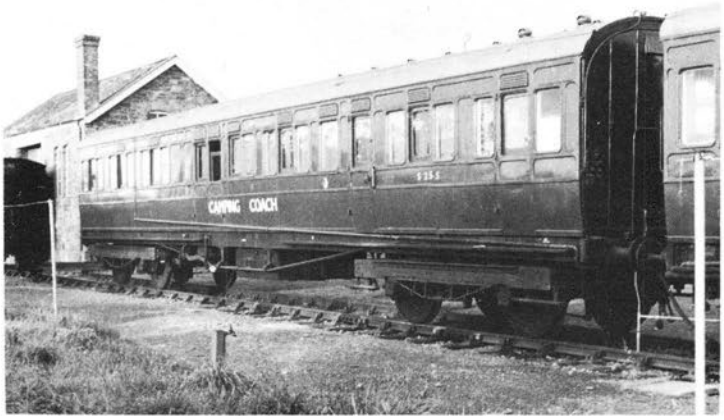
No. 76

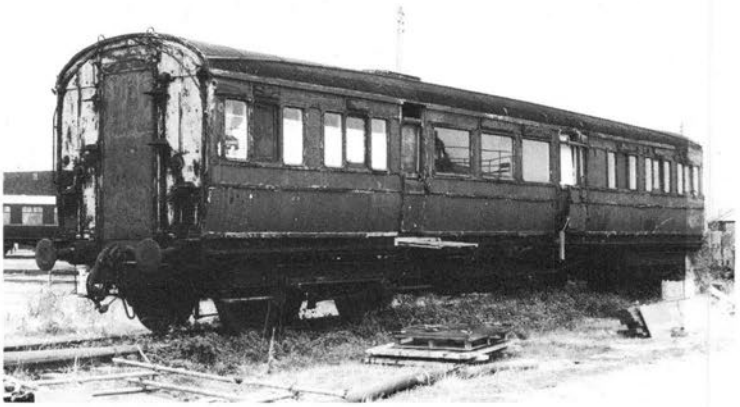
Completion date.....	August 1908
Cost.....	£1455-11-10
Numbers:- LSWR -	76 (8/08), 4138 (1/13)
SR -	7838 (post 1923)
Military -	US202 (1943), AD3019



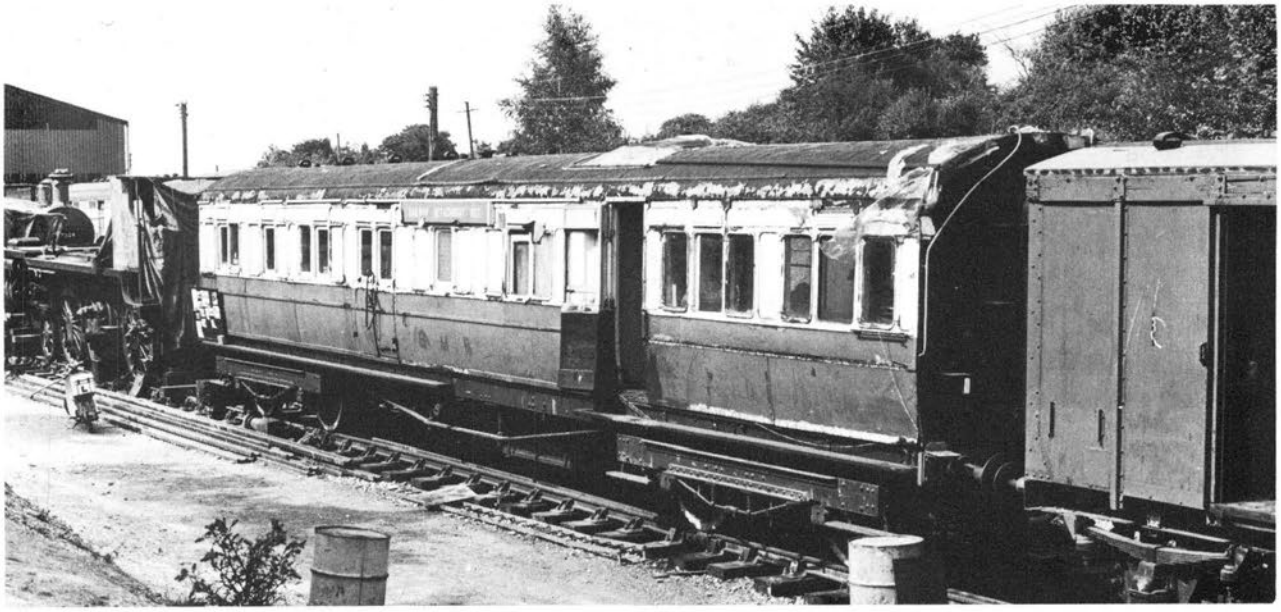
In all its Edwardian stateliness, with the original clerestory roof, dining saloon No. 67, the first of the batch which includes all the survivors, is the subject of an official photograph.

By courtesy of National Railway Museum, York





After left: Few of these former LSWR diners ran in any sort of BR service; one that did was camping coach No. S25S, former SR No. 7828. The clerestory roofs were replaced in the 1930s, after which many of them ran as 'nondescript' saloons, before (in most cases) wartime military use. *Lens of Sutton. Above right:* Dining saloon No. 70 has clearly come a long way down in the world when seen at Marchwood in July 1978, not long before going to the Mid-Hants Railway. *Martin Beckett.*

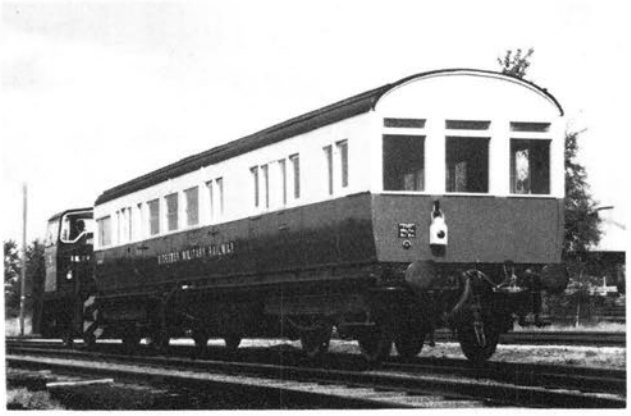


No. 76 is the other dining saloon which went to the Mid-Hants Railway, and is seen in the sidings at Ropley in August 1980. Note the chassis of ex-LSWR 'S15' No. 506 on the far left. *John Bird*

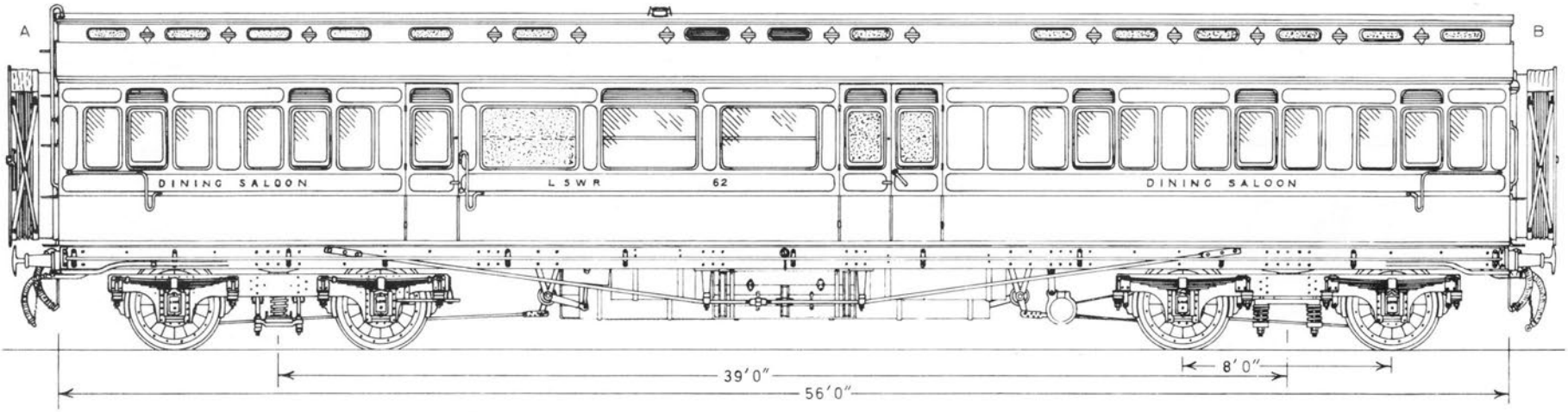
Still serving. . . . . .

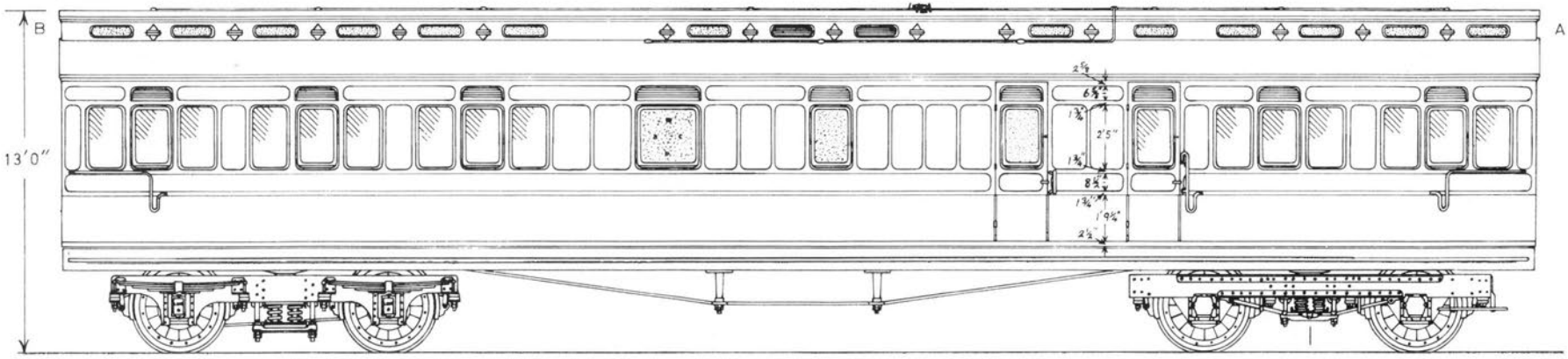
Besides the two preserved dining cars, another vehicle of the same type remains in service. This AD3018, which (in 1985) was still in use as an inspection saloon at MOD Bicester. This vehicle's history is very similar to those of the two preserved examples. It was previously Ward Car No. 201, and originally LSWR No. 72, later 4134 and Southern Railway 7834. It received the same modifications over the years as Nos. 70 and 76.

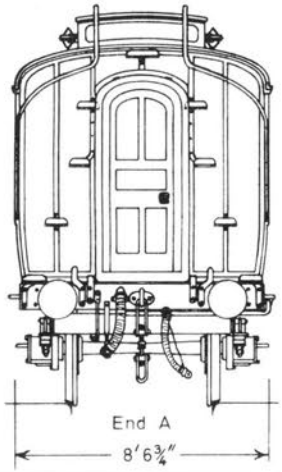
No. AD3018 has been extensively rebuilt to fit it for its role as an inspection saloon. The central vestibule remains intact but the end saloon sections have been much modified and windows fitted in the ends. The coach now bears little internal resemblance to its original LSWR form; it is painted chocolate and cream, and labelled 'BICESTER MILITARY RAILWAY'. Inside is a plaque to record that it was used as an inspection saloon by H.M. The Queen on her visit to MOD Bicester on 15th May 1978.

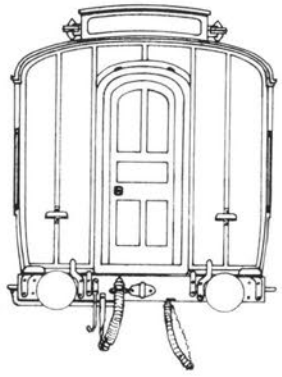


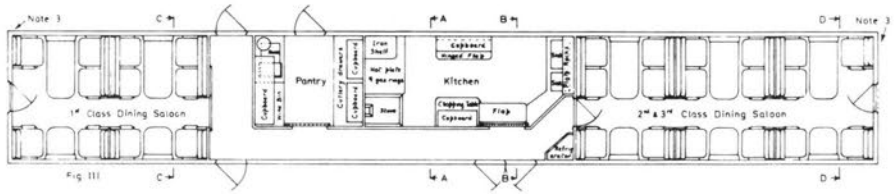
Very little trace of its origins remains in the former dining saloon No. AD3018, in use as an inspection saloon at Bicester in 1984. *J.R. Fairman*

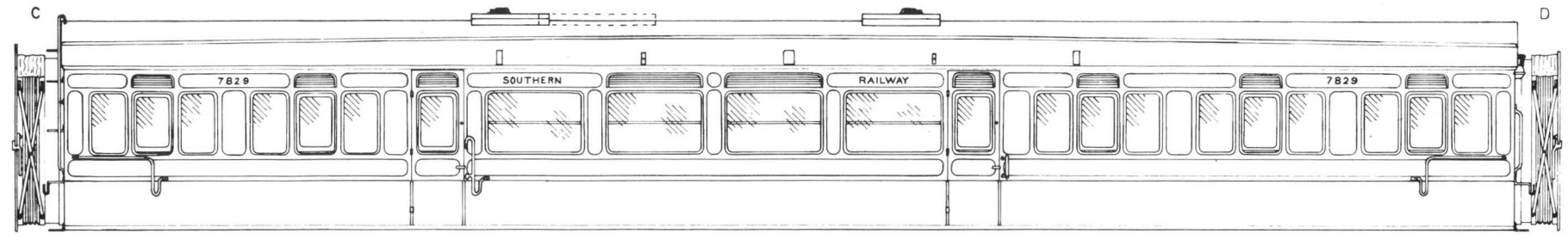

A
B
DINING SALOON
L S W R
62
DINING SALOON
39'0"
8'0"
56'0"

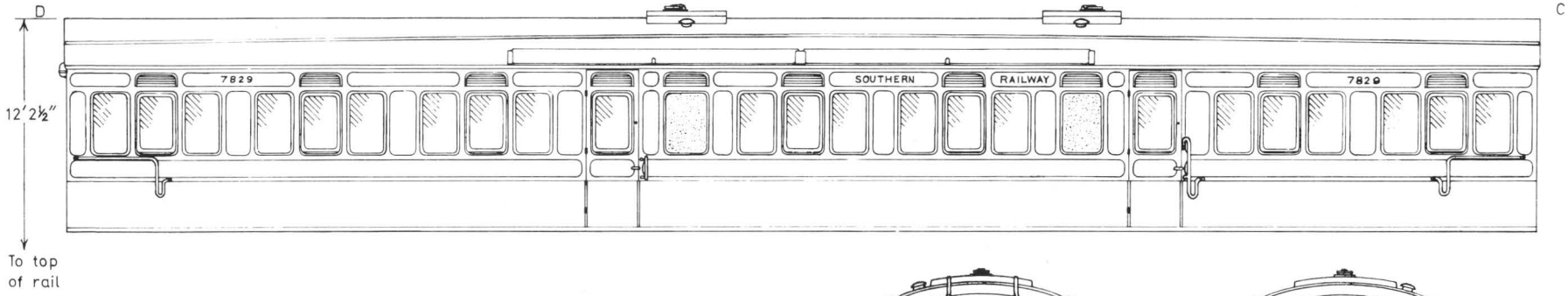

B
A
13'0"
2'5"

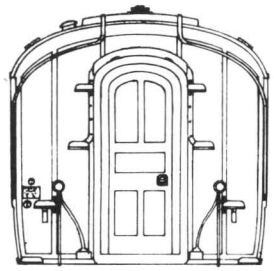

End A
8'6¾"


End B


Note 3
C
A
B
D
Note 3
1st Class Dining Saloon
Pantry
Kitchen
2nd & 3rd Class Dining Saloon
Fig. III
C
A
B
D



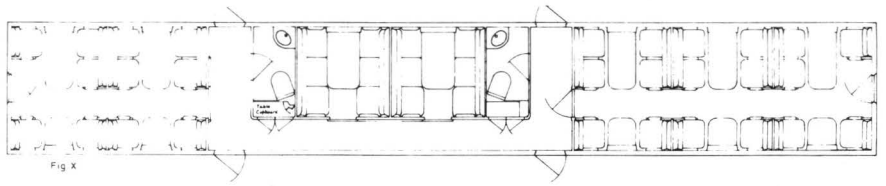




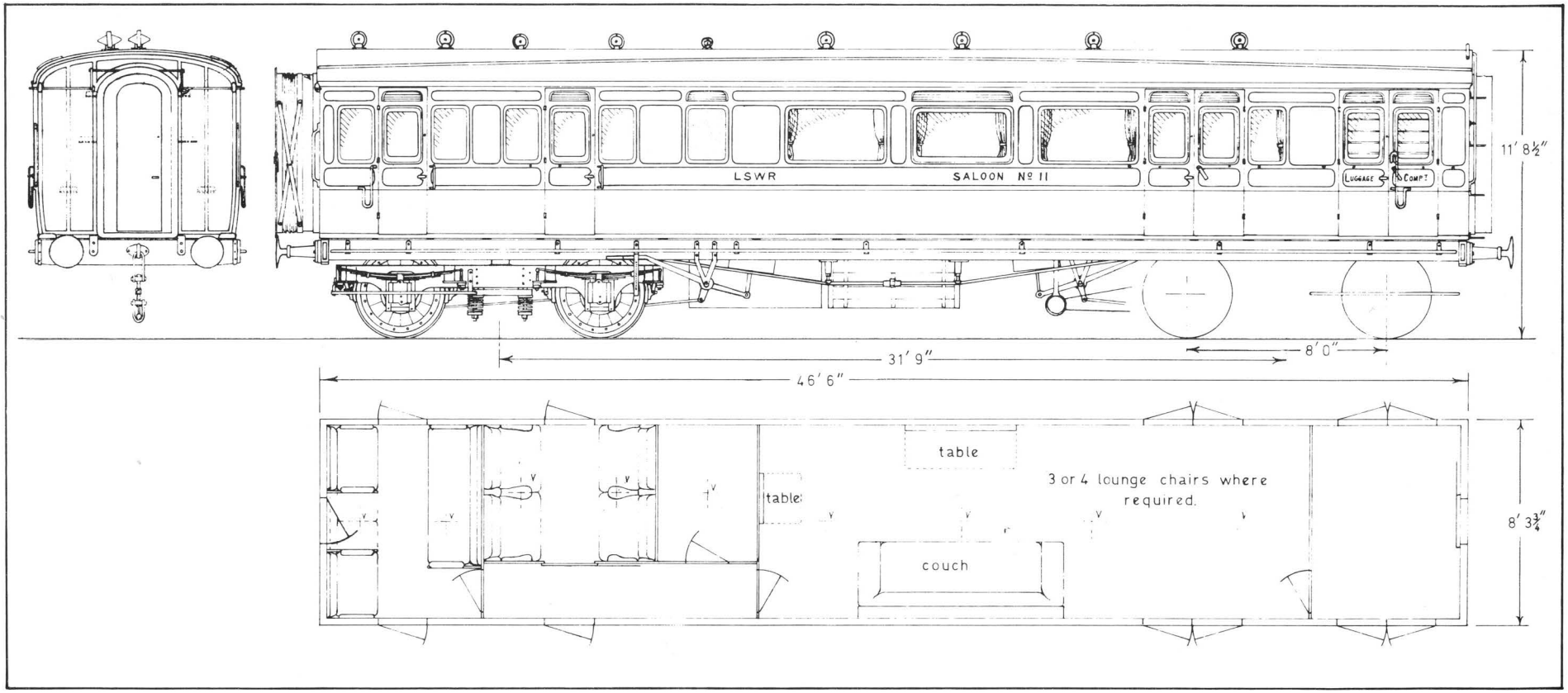
End C

End D

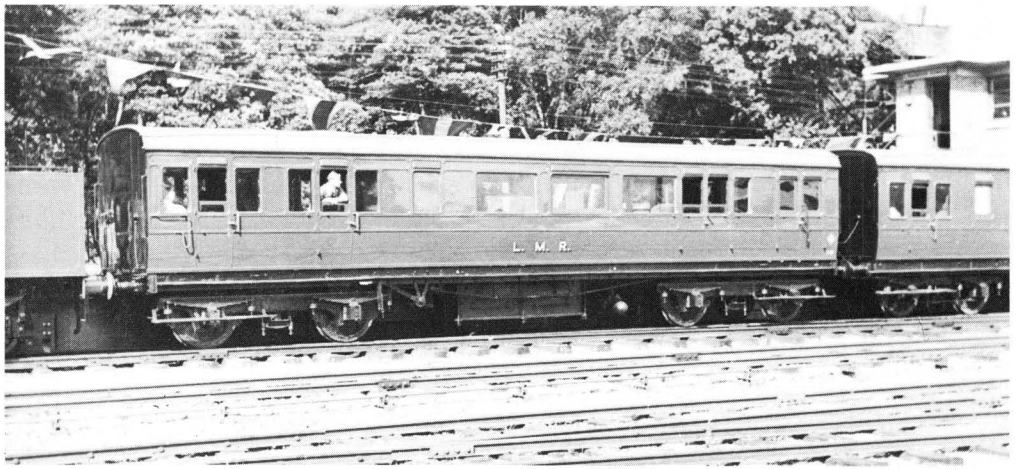
Opposite page: The early LSWR dining cars were almost the only carriages on the railway to have clerestory roofs; several types of bogie were used. *G.R. Weddell*



This page: The 1930s rebuilding of these dining saloons converted them to 'nondescript' saloons with a conventional pattern of roof, and a revised internal layout.
G.R. Weddell



The invalid saloons, such as the preserved No. 11, were built to smaller-than-normal external dimensions to permit through workings onto other railways. *G.R. Weddell*



Right: In military use, with the corridor connections removed, saloon No. 11, as Longmoor Military Railway No. 119, still retains a bit of style; 3rd September 1949. *D. Cullum*

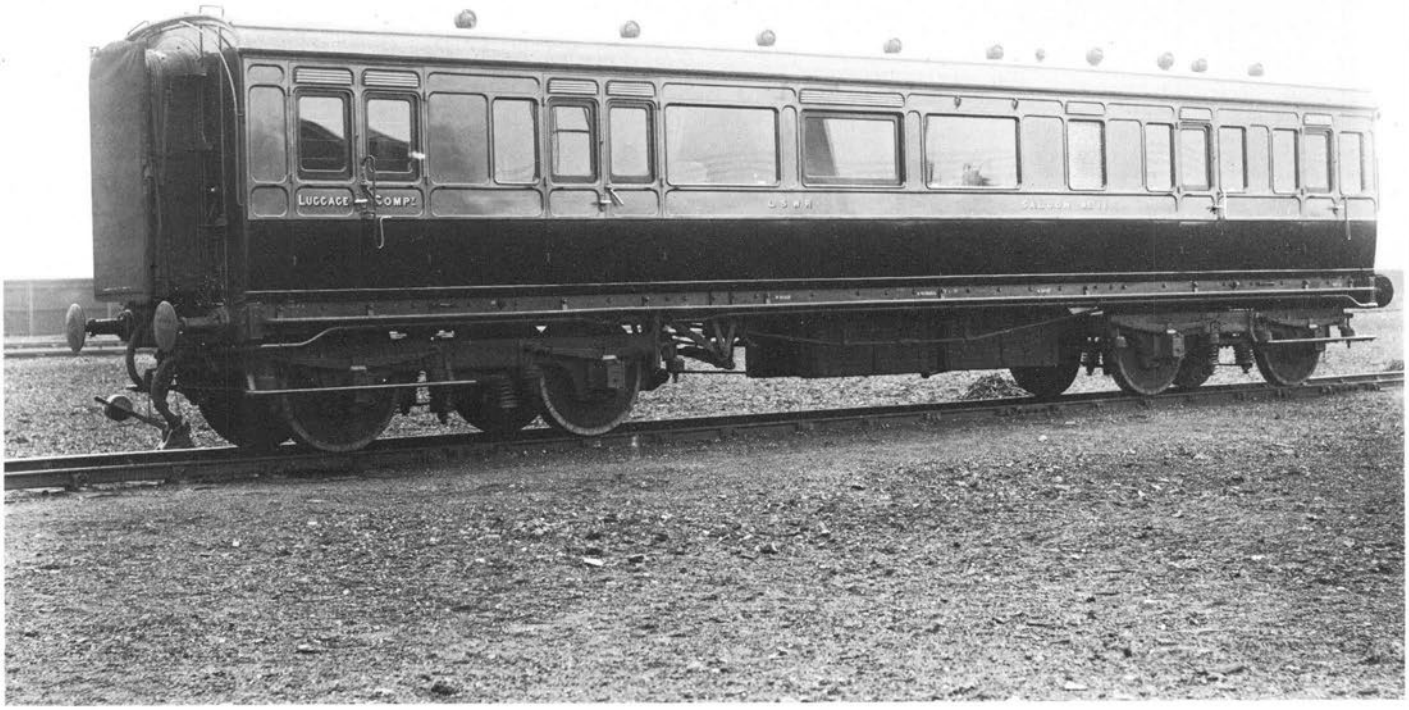
Invalid Saloon No. 11

The LSWR built a pair of non-corridor invalid saloons, Nos. 9 and 10, in 1907 and a further pair, similar but with corridor connections, Nos. 11 and 12, in 1910. The internal layout of Nos. 11 and 12 comprised a luggage compartment at one end, an open saloon area occupying almost half the length of the coach, and a corridor leading to a lavatory, a first class compartment seating four, and a second class compartment seating five. The saloon area contained a long couch, four lounge chairs and two small folding tables, and this area and the first class compartment were fully carpeted and had satinwood panelling with oak banding. The fittings in the corridor and the second class compartment were more modest. As it was intended that these saloons should be able to run through onto other railways, they were built to a restricted loading gauge, being three inches narrower and three and a half inches lower than was usual on the LSWR. Saloon No. 11 was completed at Eastleigh in November 1910.

This saloon was renumbered 4105 in October 1919, under the 1912 renumbering, and became No. 7803 in July 1927 in the Southern era; it was withdrawn in February 1938 and sold to the Longmoor Military Railway. Here the corridor connections were removed and the saloon was renumbered 129, but later became No. 3007. It became part of an officers' special train, in company with an ex-SECR family saloon of 1900 and an ex-LNWR 6-wheel inspection saloon of 1910. The officers' train remained in use until the Longmoor Military Railway closed in 1970, and then the three vehicles were handed over to the Transport Trust.

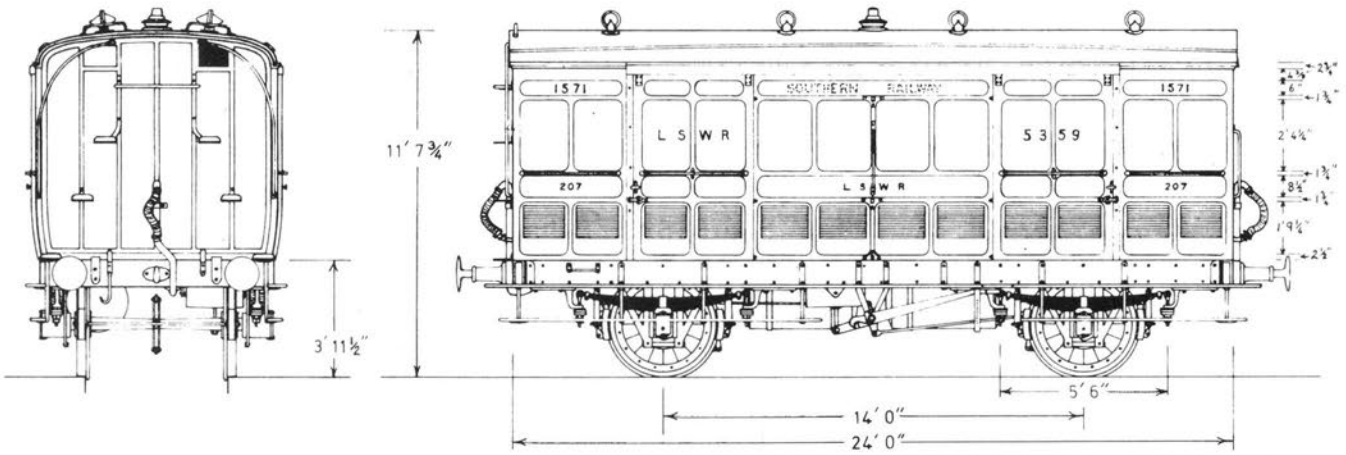
Saloon No. 11 (AD3007) was moved to the Severn Valley Railway at Bewdley in September 1971, in company with the other two vehicles of the officer's train. The three vehicles were much in demand by film companies for period steam scenes, and thus they were painted in a variety of liveries at various times. They were then sold to groups associated with the Kent and East Sussex Railway; saloon No. 11 arrived at the KESR on 31st July 1985.

Length	46ft. 6in.	Completion date.....	November 1910
Width.....	8ft. 3¾in.	Cost.....	£1097-4-6
LSWR Drawing No.....	1906	Numbers:- LSWR	- 11 (11/10), 4105 (10/19)
SR Diagram No.....	581	SR	- 7803 (7/27)
Weight.....	23 tons 6 cwt	Military	- WD129 (1938), AD3007
Number of seats.....	(13 first class (5 second class		

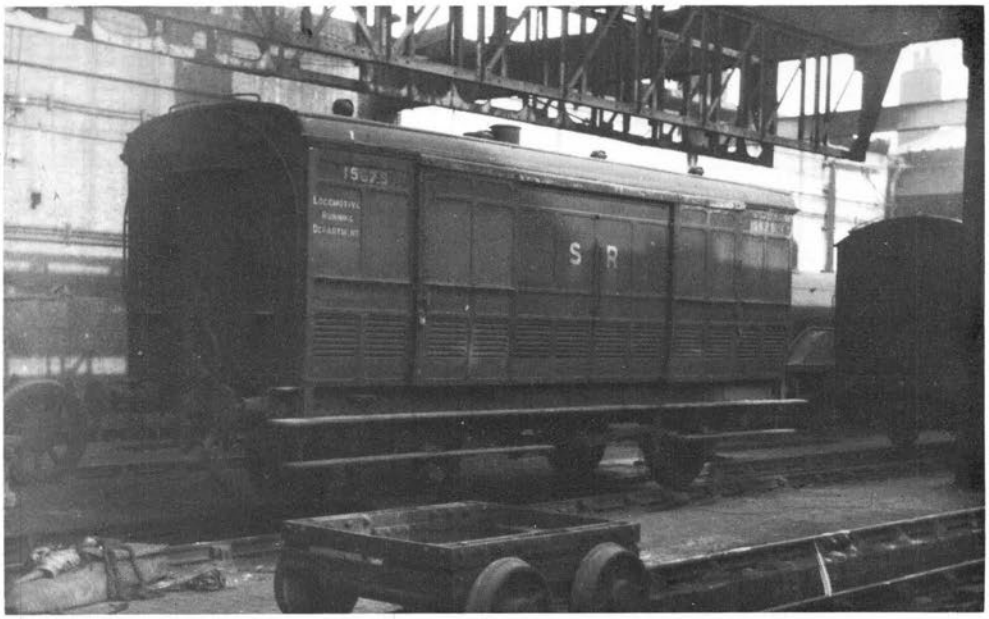


Invalid saloon No. 11, the very vehicle now preserved, features on one of the LSWR's few official carriage photographs.

By courtesy of National Railway Museum, York

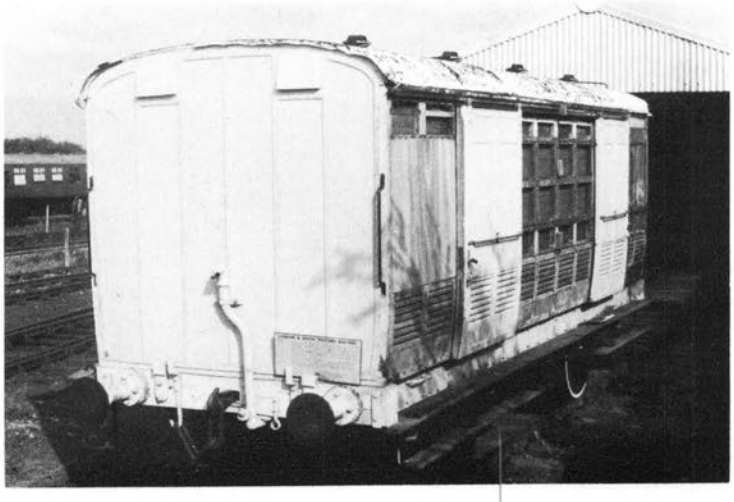


The LSWR's latter day standard pattern of van for passenger's luggage, fruit, flowers, etc. was introduced in 1909. *G.R. Weddell*



Many of the 1909 pattern luggage vans spent long periods in departmental service in the 1940s and after. No. 1567S is in Nine Elms Depot on 1st March 1947.

D. Cullum



Active restoration was getting under way at Quainton Road when luggage van No. 5025 was photographed there. *D. Battersby*

Luggage Vans Nos. 5025 and 5498

It was customary for many years for passenger trains to include vehicles which did not carry passengers, but which might carry their luggage, or certain specialist (maybe perishable) goods items. Such vehicles were fitted with vacuum brakes and could travel at express passenger train speeds; their appearance too, was essentially very similar to contemporary carriages. The reasons that compelled railways to the use of bogie carriages – primarily comfort of ride, and also the practicability of much longer vehicles – hardly applied to these non-passenger carrying vehicles, so they continued to be mostly 4-wheeled, relatively short vehicles.

The LSWR introduced a pattern of such vans, for conveyance of passenger's luggage and certain specialist cargoes such as fruit and flowers, in 1909; they continued to build them, with some variations, until the Grouping in 1923. It was a 4-wheel design, 24ft. long, 8ft. wide and weighed between 10 and 11 tons.

Their LSWR numbers were spread over the range from 5001 to 5525, but the Southern renumbered them in a block from 1428 to 1611. Twenty more, 1613-1632, were built by the Southern late in 1923, so over two hundred of these vans went into Southern Railway service. The Southern classed this pattern of LSWR luggage van as diagram 929. In the Southern era their function began to be taken over by the SR's general utility vans, which were of SECR parentage and of more utilitarian appearance. Most of the diagram 929 vans were withdrawn from normal service in the late 1930s and early 1940s, but a fairly large number of them were transferred to departmental use, and served for several more years.

Van No. 5025 was completed at Eastleigh in September 1917, and was renumbered 1451 by the Southern Railway in March 1929. It was initially painted umber and salmon pink, but was painted green by the Southern and labelled 'Luggage'. It was withdrawn in September 1939 and was grounded at Tisbury for use as a store. In 1970 it was bought for £5 by the Lea Valley Railway Group (later part of Railway Vehicle Preservations Ltd.) and taken to Quainton Road, where it arrived on 7th March 1971. A fair amount of restoration was carried out around 1972, but No. 5025 was then left under tarpaulins for a long time. It was bought by the Quainton Railway Society in 1983, and the process of restoration is now being completed.

Van No. 5498 was built at Eastleigh in December 1920, and became Southern Railway No. 1584 in September 1927. In September 1941 it was transferred to departmental use as No. 1686S, later DS1686. Under this number it was used as a mobile charging van, latterly based at Exeter Central. It was finally withdrawn in June 1969 and bought by the Southern Locomotive Preservation Co., who moved it to Liss in April 1970 and then to the Bluebell Railway in October 1971. It remains in green livery and is in use at Horsted Keynes as a store.

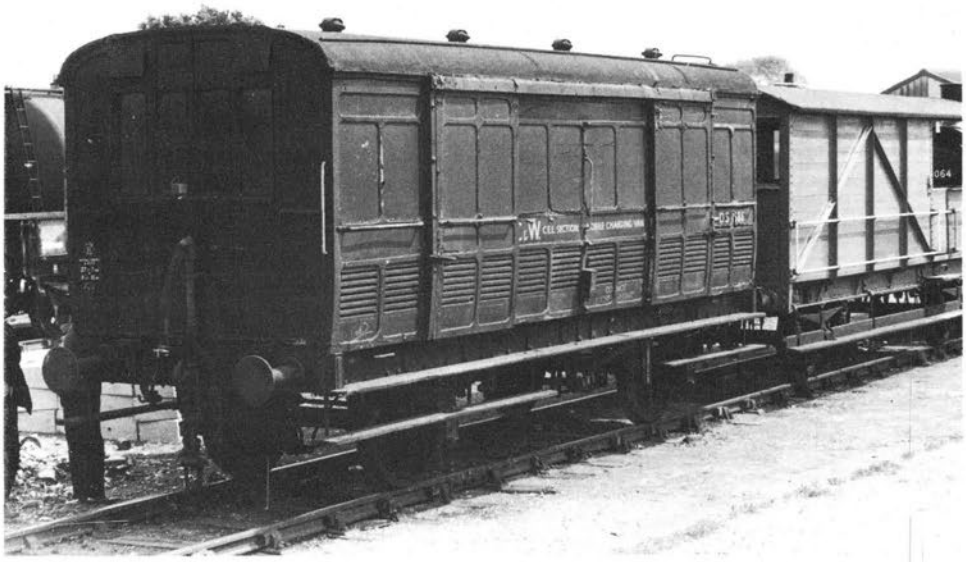
Length	24ft. 0in.	SR Diagram No.	929
Width	8ft. 0¾in.	Weight	10 tons
LSWR Drawing No.	2104, 2716 (5025) 2104, 2105 (5498)	Number of seats	None

No. 5025

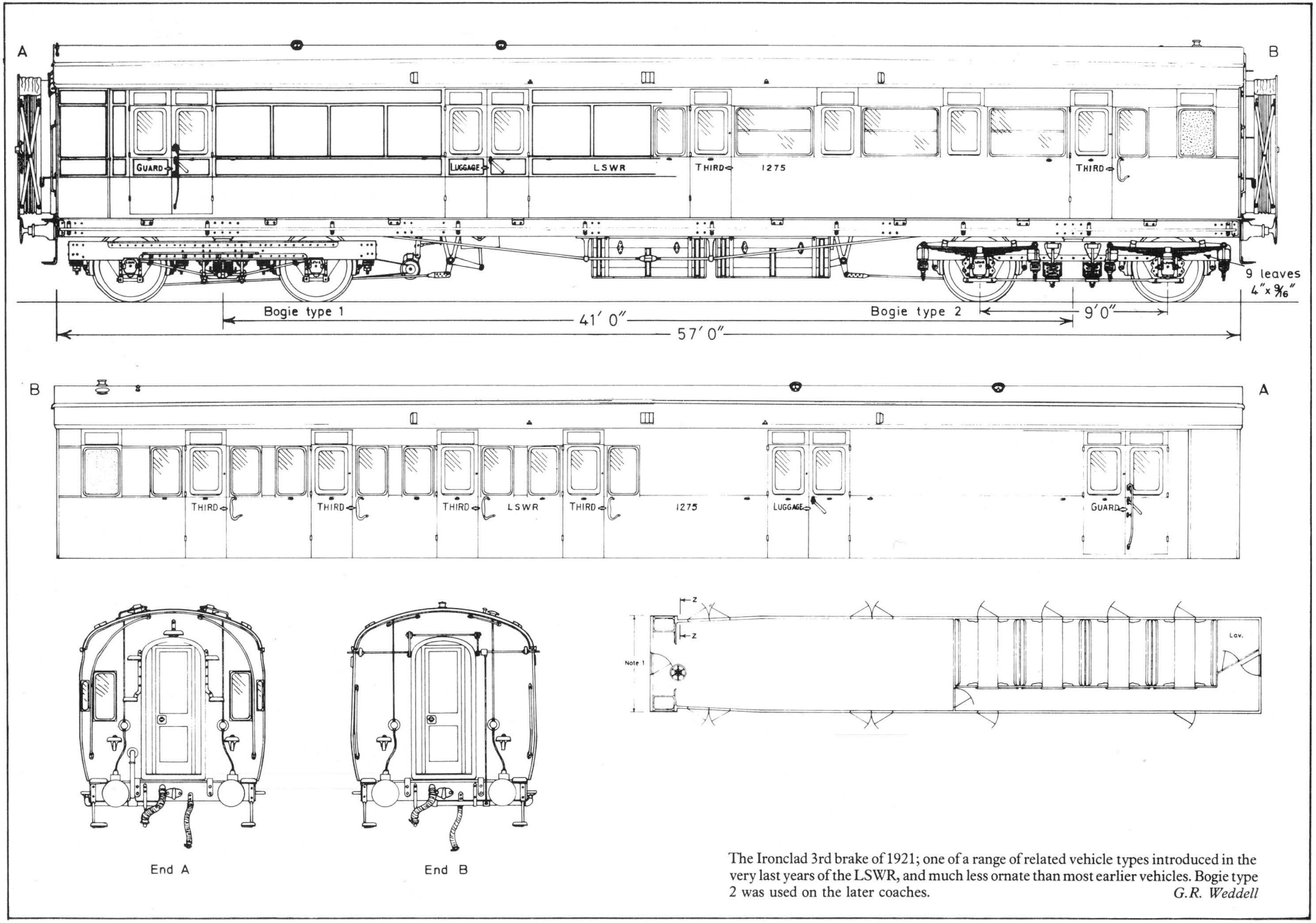
Completion date	September 1917
Cost	Approx. £400
Numbers:- LSWR -	5025 (9/17)
SR -	1451 (3/29)

No. 5498

Completion date	December 1920
Cost	£715
Numbers:- LSWR -	5498 (12/20)
SR -	1584 (9/27), 1686S (9/41)
BR -	DS1686



Luggage van No. DS1686, later to go to the Bluebell Railway, sits at Fareham with other SLP Co. stock.
John Bird



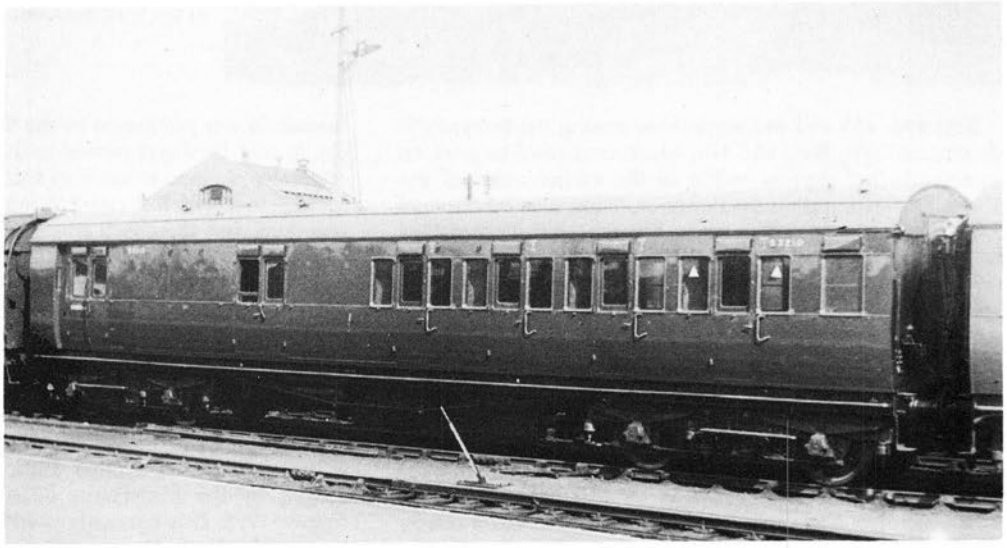
The Ironclad 3rd brake of 1921; one of a range of related vehicle types introduced in the very last years of the LSWR, and much less ornate than most earlier vehicles. Bogie type 2 was used on the later coaches. *G.R. Weddell*

Ironclad coaches

In its last years of existence, after the end of the First World War, the LSWR introduced a new pattern of express passenger coach, which differed from earlier patterns in several respects. They used the double-framed 'Dreadnought' bogies employed on the earlier dining cars, and had a more rounded, 'modern', roof profile. They were also steel panelled, which gave them their name 'Ironclads', though steel panelling had been used on some of the later versions of the previous (1904) pattern of corridor express stock.

The Ironclads established a new standard length of 57ft. for LSWR coaches, 56ft. having been usual for most types since the beginning of the century. They were also wider (9ft.) and higher (12ft. 6ins.) than previous LSWR coaches, and noticeably plainer in external appearance. Their straightforward functional appearance can be seen as echoing that of Urie's locomotives, being built at the same time. The Ironclads constitute Surrey Warner's principal contribution to LSWR carriage development.

The first Ironclads were twenty coaches built in 1921 to make up four 5-car sets, each of which comprised two third brakes, a third, a pantry third, and a first. They were built to bring better travelling conditions to the Bournemouth line express services, and many of the Ironclads were to have long associations with this line. Later patterns of Ironclad included first brakes, composites, composite brakes and diners.



An 'Ironclad' third brake in typical latter day Southern condition; No. S3210 at Eastleigh. This is one of the later vehicles, with SECR pattern bogies. *D. Cullum*

Third brakes LSWR Nos. 1282 and 1353, and SR No. 3204

The third class brake coaches in the first 5-car Bournemouth line sets were built to LSWR drawings 3252, and those in later sets to drawing 3710, which differed in only a few minor details. These third brakes had a large guards/luggage area, occupying about half the length of the coach, and four third class compartments giving thirty two seats, with a side corridor and a lavatory. With the coach width at 9ft., the guard's look-out could not project outside this, so the coach sides tapered in, over part of the luggage compartment, to a narrower width from which the guard's look-out projected to the full 9ft.

This brake No. 1282 was one of the batch of twenty Ironclads built for the first four 5-car sets, and was completed at Eastleigh in November 1921; it ran at first in set 4C. Third brake No. 1353 was one of the batch of thirty Ironclads which made up the next six 5-car sets and was completed in March 1923; it ran at first in set 5C.

On the formation of the Southern Railway in 1923 the Ironclads were by far the largest group of modern coaches inherited by the new company, and the Southern adopted the type as an interim standard design until its own new patterns were introduced from 1926. Under the Southern's renumbering scheme, No. 1282 became SR No. 3187 in February 1925. Set 4C became SR set 434 which comprised:-

3rd brake 3187	+	Pantry 3rd 716	+	1st 7172	+	3rd 720	+	3rd brake 3186

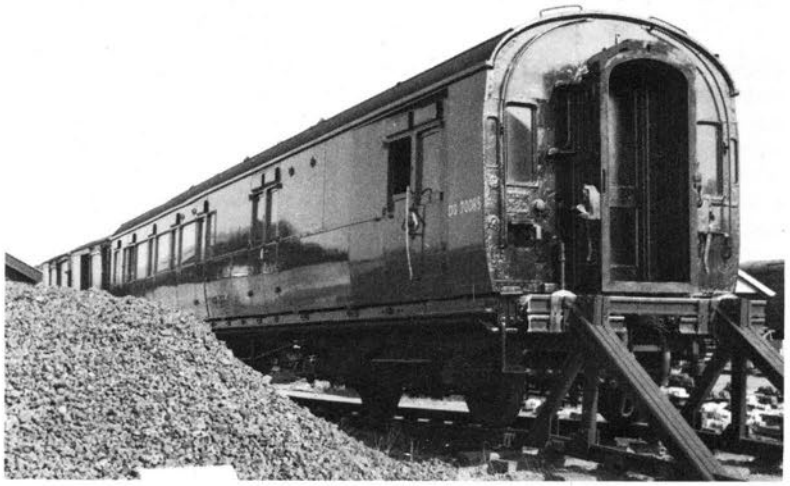
Similarly, No. 1353 became SR No. 3190 in May 1928, and set 5C became SR set 435 comprising:-

3rd brake 3190	+	3rd 724	+	1st 7187	+	3rd 723	+	3rd brake 3191

Third brake No. 3204 was completed in July 1925, as part of the Southern's interim policy of continuing to build Ironclads. Those built after mid 1923 had bogies of SECR pattern, instead of the LSWR Dreadnought type, so in this respect No. 3204 differed from Nos. 3187 and 3190. It was one of a batch of twenty Ironclads built to provide four more sets for the Bournemouth services, and ran in 5-car set 441 which was made up of:-

3rd brake 3203	+	3rd 755	+	1st 7202	+	3rd 756	+	3rd brake 3204

Ironclad 3rd brakes like these three survivors were built to two patterns, mirror images of each other, in which the corridor was either on the east or the west side, when the luggage compartment was at the north end of the coach. Nos. 3187 and 3190 are 'west' side coaches (SR diagram 135) and No. 3204 an 'east' side coach (diagram 213). The twenty eight Ironclad third brakes built to these two diagrams were Southern Railway Nos. 3180-3199 and 3203-3210.



The only Ironclad third brake to retain its corridor connections in departmental service was No. DS70085 (formerly No. 3204), now at the West Somerset Railway.
Lens of Sutton

Sets 434, 435 and 441 were three among the fourteen 5-coach Ironclad sets, Nos. 431-444, which continued to work on Bournemouth line express traffic in the earlier years of the Southern. However, just as the Portsmouth line electrification of 1937 had a considerable effect on the disposition and allocations of many of the Southern's locomotives, it similarly affected some of the coach formations. These 5-coach Ironclad sets were reduced in 1937 to four coaches each by the removal of one of the Ironclad thirds and the replacement of the other by a 'loose' Maunsell third of mid 1930s construction. In this form, these sets worked on secondary services, and remained busy through the war years.

Around 1947-48 the 4-coach sets were reformed into 8-coach sets; many became all-Ironclad sets once more, with the interloping Maunsell third replaced by five Ironclad thirds. These 8-coach Ironclad sets were now held in reserve for use on special traffic on the South Western section. They remained in service until the late 1950s, when the sets started to be disbanded, and the individual coaches were either withdrawn or transferred for continued use as departmental vehicles. For this use most of them were modified, losing their corridor connections and with some of their doors replaced by sliding doors.

No. 3187 became a 'loose' coach in June 1957, but was withdrawn from normal service in December of that year; it was renumbered DS179 in departmental stock as a mess and tool van in a breakdown train, based first at Guildford and later at Chart Leacon. It was purchased by the Winchester and Alton Railway Co. in mid 1979 and moved to the Mid-Hants Railway. It was originally planned to use it as a museum coach, but later it was decided to restore it to running condition. Some restoration work was done, but the coach was sold, late in 1984, to Knebworth House for use as a museum coach.

No. 3190 remained in set 435 until withdrawn in August 1959, when it became DS70016, a breakdown van based at Exmouth Junction. It became Western Region stock as DW70016 following the regional boundary changes of January 1963. After the closure of Exmouth Junction shed it was moved to Newton Abbot and worked in the breakdown train there; later it was moved to Plymouth Laira for use as a mess van, and then returned to Exeter around 1972, remaining there until being bought by the Mid-Hants Railway Preservation Society in August 1978. It is currently used as a sales coach by the group owning the 'West Country' Pacific *Swanage*.

No. 3204 remained in set 441 and was also withdrawn in August 1959. It then became DS70085 and was based at Yeovil Junction for some years. It is remarkable as being the only one of these preserved Ironclads to retain the corridor connection and the original doors. When it was withdrawn in June 1973 it was bought by a group from the Somerset and Dorset Railway Museum Trust. It is now at Williton on the West Somerset Railway, where it awaits restoration to running condition.

More usually departmental Ironclad condition was like this. The former No. 3190 in preservation at the Mid-Hants Railway. This is one of the earlier vehicles with LSWR 'Dreadnought' double-framed bogies.
Charles Lewis

Length	57ft. 0in.
Width.....	9ft. 0in.
LSWR Drawing No.....	3252 (No. 1282), 3710 (No. 1353)
SR Diagram No.....	135 (Nos. 1282 and 1353), 213 (No. 3204)
Weight.....	32 tons
Number of seats.....	32 third class

No. 1282

Completion date.....	November 1921
Cost.....	(unknown)
Numbers:- LSWR	- 1282 (11/21)
SR	- 3187 (2/25)
BR	- DS179 (1958)

No. 1353

Completion date.....	March 1923
Cost.....	(unknown)
Numbers:- LSWR	- 1353 (3/23)
SR	- 3190 (5/28)
BR	- DS70016 (1959), DW70016 (1963)

No. 3204

Completion date.....	July 1925
Cost.....	(unknown)
Numbers:- SR	- 3204 (7/25)
BR	- DS70085 (1959)

Dining saloon No. 4151

Two dining saloons, Nos. 4150 and 4151, were the last pattern of Ironclad introduced by the LSWR, though they were not actually completed until almost a year after the Southern Railway had been formed. They were the first LSWR diners to be built since 1913. No. 4151 was completed in October 1923 and was renumbered 7851 by the Southern in December 1923, so it is not certain that the LSWR number was actually carried. This vehicle had two dining saloons giving a total of twenty nine third class seats, plus a kitchen and pantry. In 1925 the Southern built six more similar coaches, Nos. 7852-7857, and all eight were used as 'loose' coaches on Waterloo-Bournemouth express services.

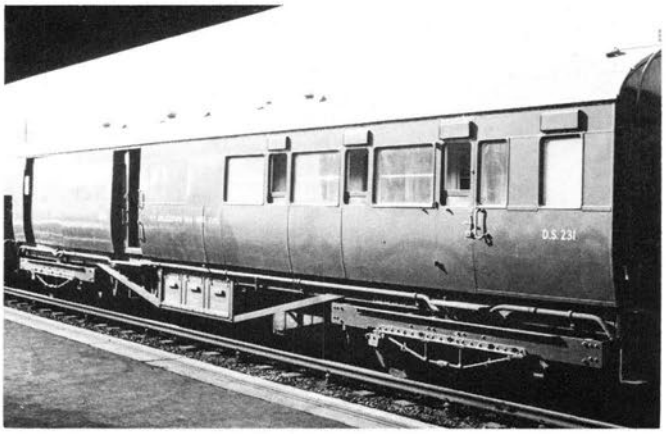
From 1938 all eight of these dining saloons were placed in reserve stock, but during the war No. 7851 was used as a mobile staff canteen. It was withdrawn from normal service in 1947, renumbered 625S in departmental stock, and converted for use as a staff sleeping car in connection with the 'Devon Belle' Pullman car train. After the withdrawal of this Pullman train No. 625S, later renumbered DS625, served in departmental use at a variety of locations; between 1960 and 1975 it was in use at Grove Park, Wadebridge, Woking, Fratton and, finally, Guildford. On withdrawal it was purchased by a group from the Mid-Hants Railway and moved to that line in December 1980, where restoration is now in progress.

Length	57ft. 0in.
Width.....	9ft. 0in.
LSWR Drawing No.....	3854
SR Diagram No.....	592
Weight.....	36 tons
Number of seats.....	29 third class
Completion date.....	October 1923
Cost.....	(unknown)
Numbers:- LSWR	- 4151 (10/23)
SR	- 7851 (12/23)
BR	- 625S (1948), DS625 (1960)

Under restoration at the Mid-Hants Railway is the surviving Ironclad diner, SR No. 7851, latterly No. DS625, seen in the south sidings at Alresford. *P. Pretious*

Still serving

When they were withdrawn from normal service, mostly between 1957 and 1962, a considerable number of Ironclad coaches were transferred to departmental stock and continued in use; these included about half the ordinary thirds and third brakes, and a few others. Some of these have since been withdrawn and disposed of, but (in 1985) eighteen of them remain in service. This is the largest body of pre-grouping carriages remaining in any sort of BR service, and is a great tribute to their design and construction. They are assigned for use in breakdown train units (BTUs) and power supply section (PSS) trains, and most of them are based in pairs at various depots around the Southern Region. As will be seen, they cover the full span of Ironclad construction, including a few completed by the LSWR, several ordered by the LSWR but completed after the Grouping, and some ordered and built by the Southern.



Still serving – No. DS231 (former No. 3182) in departmental service at New Malden on 28th September 1959. *J.H. Aston/Lens of Sutton*

LSWR No.	Date	SR No.	Original SR set	Dept No.	Location	Use
Thirds - SR diagram 24						
773	7/21	717	431	ADS226	Bournemouth	BTU Staff Coach
67	3/23	724	435	ADS225	Bournemouth	BTU Tool Van
70	6/23	726	437	ADS70127	Horsham	PSS Tool Van
74	6/23	728	438	ADS70011	Brighton	BTU Staff Coach
79	10/23	730	439	ADS228	Wimbledon	BTU Staff Coach
—	4/24	746	Loose	ADS70012	Stewarts Lane	BTU Staff Coach
—	4/24	747	Loose	ADS70128	Aberdeen	BTU Tool Van
—	4/24	748	Loose	ADS229	Hither Green	BTU Tool Van
—	4/24	750	Loose	ADS70123	Horsham	PSS Staff Coach
—	5/24	752	Loose	ADS70014	Brighton	BTU Tool Van
—	5/24	753	Loose	ADS230	Hither Green	BTU Staff Coach
—	7/25	756	441	ADS70015	Stewarts Lane	BTU Tool Van
—	9/25	761	444	ADS70124	Aberdeen	BTU Staff Coach
Third Brakes - SR diagrams 135 (3182 & 3198) and 213 (3193 & 3208)						
1277	7/21	3182	431	ADS231	Wimbledon	BTU Staff & Tool Coach
1357	6/23	3193	437	ADS70133	Wimbledon	BTU Staff & Tool Coach
1369	10/23	3198	440	ADS232	Brighton	BTU Staff & Tool Coach
—	9/25	3208	443	ADS70132	Horsham	PSS Staff & Tool Coach
First - SR diagram 476						
—	4/24	7200	Loose	ADS227	Wimbledon	BTU Tool Van

It is not certain whether the vehicles completed in October 1923 actually carried their assigned LSWR numbers.

Other vehicles

A few other items need to be mentioned.

No. M3104 is a former LSWR coach frame, now in use as a jib runner for a 10-ton crane at the Midland Railway Trust at Butterley.

Three grounded coach bodies at the Swanage Railway are claimed to be of LSWR origin:-

No. 0695 is the body of a 6-compartment suburban coach, withdrawn in 1921.After 55 years use as a holiday chalet at Highcliffe, near Christchurch, it was bought and moved to Corfe Castle station; it was then moved to Swanage in 1980. Some doubts have been expressed as to whether this coach body is indeed of LSWR origin.

Nos. 2296 and 5440 are the bodies of 5-compartment 32ft. composite coaches which were used as part of a house at Worth Matravers from 1923 until 1983. They were moved to Corfe Castle in 1983 and then to Swanage, where they are used as stores. The evidence of its number alone raises a query as to whether No. 5440 is of LSWR origin.

It is planned to restore all these three bodies eventually as complete vehicles.

Though the Drummond 'F9' class 4-2-4 tank with saloon ('The Bug') was, in the end, not preserved, its saloon body has survived. It is now located at the Hampshire Narrow Gauge Railway Society at Durley, near Southampton.

Preserved LSWR wagons

All drawings to 4mm scale.

The oldest preserved LSWR wagons date from the 1890s, so, as with the preserved carriages, they represent the work of Panter and Warner. There is nothing dating from the superintendencies of Adams or Beattie, most of whose wagons had gone by the formation of the Southern Railway in 1923, and also nothing built before the carriage and wagon works moved from Nine Elms to Eastleigh in 1890.

With the preserved LSWR locomotives it is possible, for much of their lives, to give a fairly detailed account of the history of each. For the preserved carriages, at least a full outline can be given in each case. But with the preserved wagons, it is not always possible even to be sure of the identity of each item. This is largely because many of them have reached preservation after ownership of bodies such as the Army Department or the Port of Bristol Authority, and in these cases the records are not available to enable precise identification to be made.

The preserved wagons do, however, offer a reasonable cross-section of the sort of goods stock the LSWR possessed in its later years. Open wagons, closed wagons, brake vans and specialist wagons exist, though the numbers preserved do not reflect the vast preponderence of open wagons in the railway's list. As with the preserved carriages, departmental use in BR days made possible the survival of several of these wagons for long enough for them to be preserved.

One problem for preserved wagons generally is that, apart perhaps from brake van rides, they can rarely earn a preserved railway any revenue, though some have found, in effect, further departmental use on preserved lines. The occasional running of trains of preserved wagons can only be regarded as acts of charity by these railways, a kindly thought for the enthusiasts of goods trains and wagons.

A note on numbering

The LSWR numbered its wagons in a quite haphazard way, often allocating any vacant number to a new vehicle; so no pattern is evident. The Southern renumbered its wagons so that all of one broad category (open wagons, closed wagons, etc.) were grouped together; but within these categories, wagons of each pattern were often not numbered together. Ex-LSWR wagons transferred to the Isle of Wight were renumbered again, just as 'E' prefix locomotives moved to the 'W' prefix series on making the same transfer.

Road vans

This was the most numerous and typical pattern of LSWR goods brake van, and all the preserved goods brake vans of LSWR origin are of this type. They were designed by William Panter and are probably the most distinctive legacy of his wagon construction; 444 of them were passed by the LSWR to the Southern Railway, representing almost three quarters of the LSWR's tally of goods brake vans at the grouping in 1923.

The Southern Railway classified the road vans as diagram 1541. They were single balcony brake vans with timber underframes and outside framed timber bodies. The layout is unusual, comprising a single balcony, a guard's compartment and a goods van section, so the vehicle could combine the function of a guard's van with the ability to carry small items of merchandise. This ability to pick up and deliver small consignments along the way (along the 'road') gave rise to their name of road vans, and was particularly valuable in rural areas and on branch lines. For a railway with comparatively low emphasis on freight, like the LSWR, such versatile vehicles must have been very useful.

Van No. 99, built in 1894, was renumbered SR No. 54516 at Lancing in December 1924; it was transferred to the Isle of Wight in May 1932 and was then renumbered 56055. It remained in service until the end of steam working on the Island railways and was withdrawn in December 1966. It was returned to the mainland and stored at Fratton from May 1967, and at Preston Park from November 1967. It was moved to the National Railway Museum at York, for preservation in the National Collection, in 1978, but has not yet been restored.

Van No. 5706, built at Eastleigh in 1898, became Southern Railway No. 54663 and survived in use on the Bodmin-Wadebridge-Padstow section until 1961. It was purchased by the Bluebell Railway where it arrived in May 1962, as one of their first items of goods rolling stock. It awaits restoration.

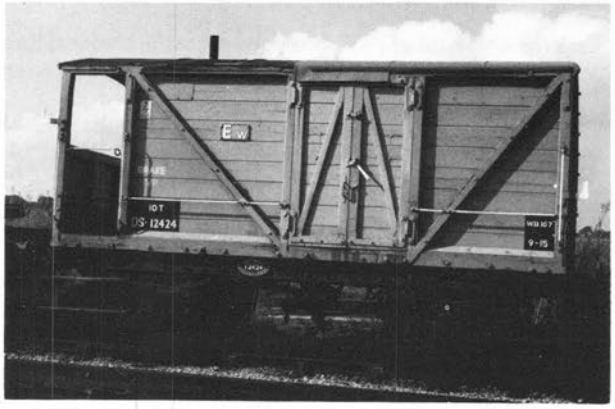
Van No. 11104, also built in Eastleigh in 1898, was renumbered 54843 by the Southern Railway. It was transferred to the Isle of Wight in 1927 and renumbered 56046; it remained in service until 1968 and was then sold for scrap. It was re-sold by a local scrap dealer to the Wight Locomotive Society, who restored it to prewar Southern Railway colours.

Van No. 12424 was built in Eastleigh in 1900, and was renumbered 54885 by the Southern Railway. It worked in the Herne Hill area for many years, before being sold to the Longmoor Military Railway, where it was numbered AD82020 and used as part of the weedkilling train. It was sold following the closure of the LMR and was moved from Longmoor to Liss in May 1970. It was then moved to Eastleigh in October 1971, and finally in November 1973 it went to the East Somerset Railway at Cranmore. It is now restored in blue-grey livery.

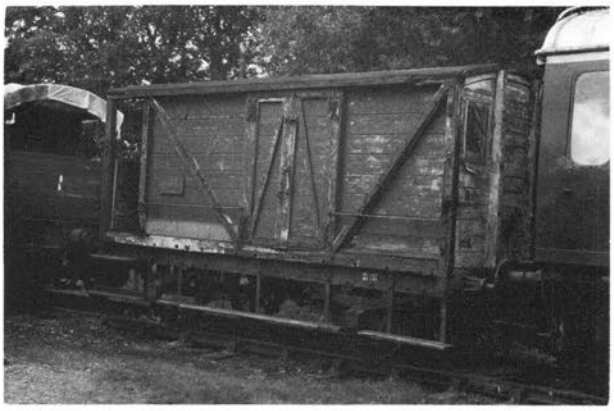
Road vans

SR diagram	1541		
Length over headstocks	18ft 0in.	Length over buffers	21ft. 0in.
Wheelbase	10ft. 6in.	Width	7ft. 9½in.
Rated capacity	10 tons		

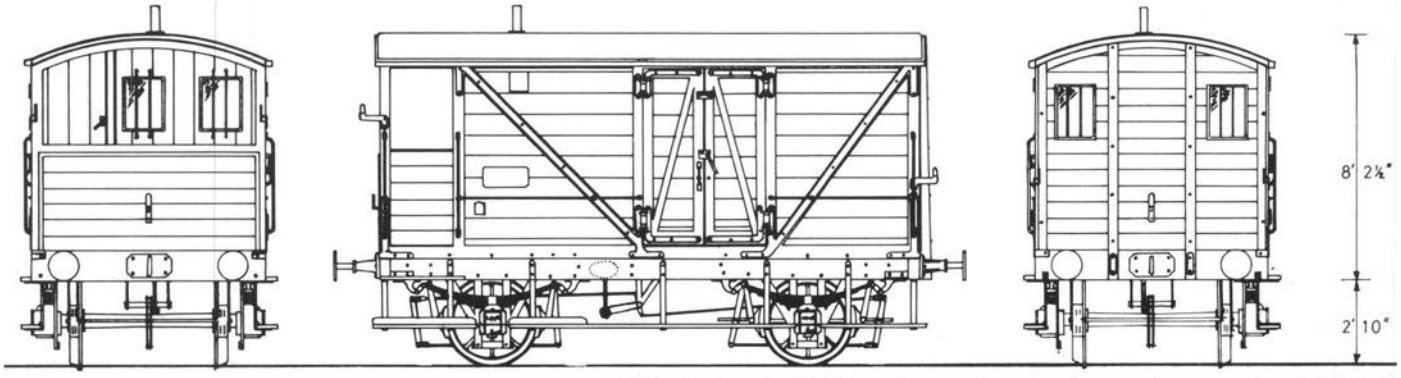
The LSWR's road van was a distinctive type of vehicle; the Wight Locomotive Society's example has been restored to Southern Railway condition as No. 56046 – spring 1984, near Havenstreet. . *Roger MacDonald/Isle of Wight Steam Railway*



Road van No. 12424 has been restored at Cranmore, but not to any LSWR or SR condition; 16th September 1984. *P. Cooper*



The Bluebell's Railway's road van has not, alas, been restored as yet; Horsted Keynes, 25th August 1985. *P. Cooper*



This drawing of an LSWR road van was based on the example preserved at the Bluebell Railway. *Gerry Bixley*

Covered vans

William Panter's design of covered van was introduced in 1885, and though a number of variations existed, the basic pattern remained the same up to the end of the LSWR. They all had external timber frames with diagonal bracing, but some were built on wooden underframes and some on steel. All of these vans built after about 1912 had roofs 7 inches higher than those built before; a majority of these later vans had 3-part hinged doors, while the others, and all the earlier vans, had single sliding doors. The Southern Railway allocated diagram numbers from 1406 to 1410 to these vans, to cover these variations in design.

Van No. 2780 was built at Eastleigh in 1906 and renumbered 42679 by the Southern. This is an example of the earlier, lower roofed vans which the Southern classified under diagram 1410. This was the most numerous pattern of ex-LSWR covered van, over 1000 vehicles being classified under this diagram. This van was transferred to departmental stock in 1946 as 395S (later DS395) and was used as a stores van to convey electrical spares between Eastleigh works and Slade Green. In 1960 it was transferred to internal use, renumbered 081273, and was used as a C&W store at Margate. It was purchased in 1980 by the Tenterden Rolling Stock Group and moved to the KESR in June 1980. It has been restored to LSWR dark brown livery.

Van No. 8112 was built at Eastleigh in 1912 and renumbered 43241 in November 1929. This is one of the later, higher roofed vans, and having a wooden underframe and single sliding doors it was classified under diagram 1406 by the SR. It was transferred to departmental stock as DS43241 and later purchased for preservation on the Bluebell Line, where it arrived in July 1972. It was restored to LSWR brown livery in about 1976.

Van No. 9128 was built at Eastleigh in 1924 and became SR No. 44425; it may, in fact, never have carried the LSWR number in service. It was built to the final pattern of LSWR covered van, with a three-part hinged door and was classified under diagram 1408. It was later sold for Army use, as AD47774, and it was modified, probably during Army service, to the present two-part hinged door.

The Longmoor Military Railway closed in October 1969 and its wagons were sold by auction. No. AD47774 was moved to Liss in May 1970; and it was used in the filming of 'Young Winston' in 1971 and was then moved to Eastleigh in October that year. In November 1973 it was moved to the East Somerset Railway at Cranmore.

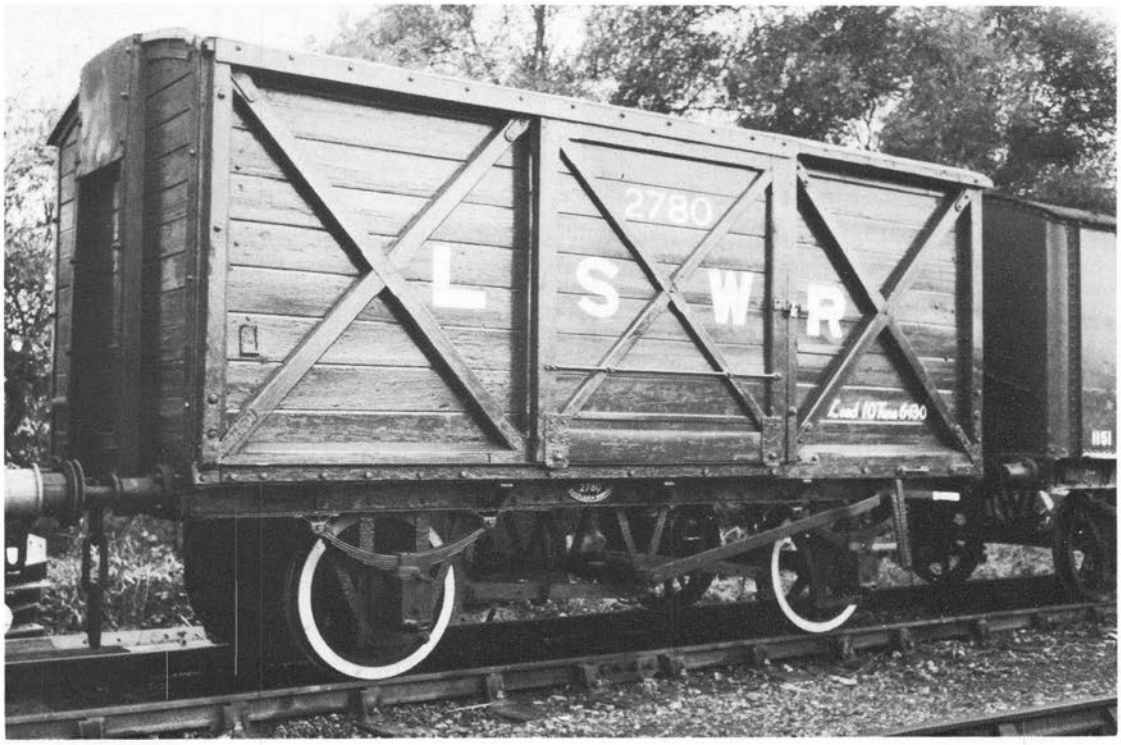
The original identities of the other surviving vans are not known, as each of them was purchased from the Army Department, and no details of previous history are available. All, however, are low roofed vans to diagram 1410.

Van No. AD47253 was purchased by the Quainton Railway Society from MOD Graven Hill, Bicester, and arrived at Quainton in August 1972. It remains in military olive drab.

Van No. AD47754 was sold in the auction of Longmoor Military Railway stock in 1970. It was moved first to Liss, in May 1970, and then to Godalming in October 1971, before going to the East Somerset Railway at Cranmore in December 1973. It was overhauled in 1975 and 1979 and is now painted in light grey livery.

Van No. AD47763 was converted to flat wagon No. 6095 at Liss, having been sold on the closure of the Longmoor Military Railway. It went to Eastleigh in October 1971 and to the East Somerset Railway at Cranmore in November 1973.

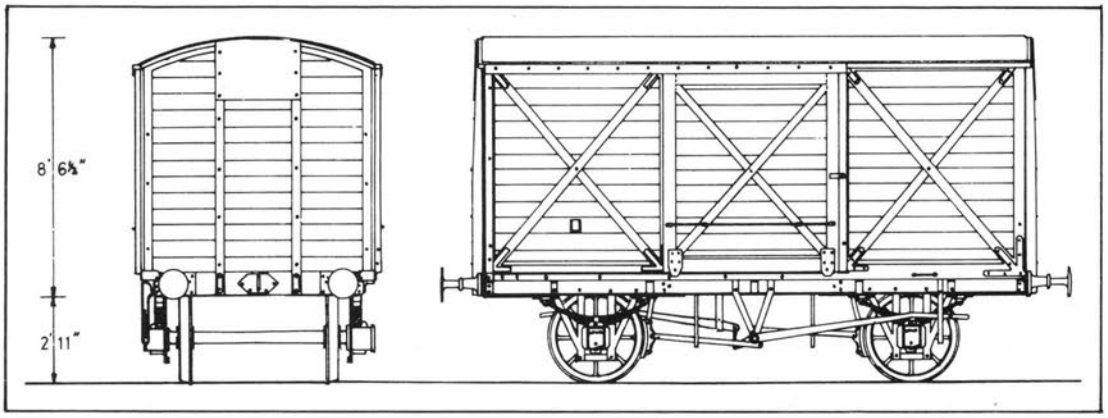
Van No. AD47773 was purchased by the Bulleid Society in 1970 and was used at first in Liss. It was then transferred to the Bluebell Railway in September 1971, and was repainted in LSWR brown livery, in 1981, with the 'artificial' number 2773.



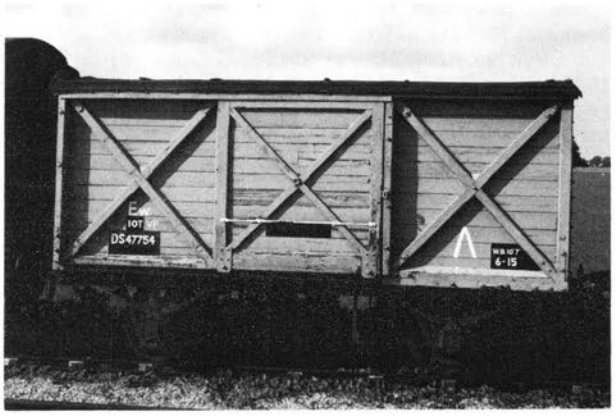
LSWR covered vans, with their 'X' bracing, were fairly unmistakeable. One of the three restored in LSWR colours is No. 2780, on the Kent and East Sussex Railway. *Paul Ramsden*

Covered vans

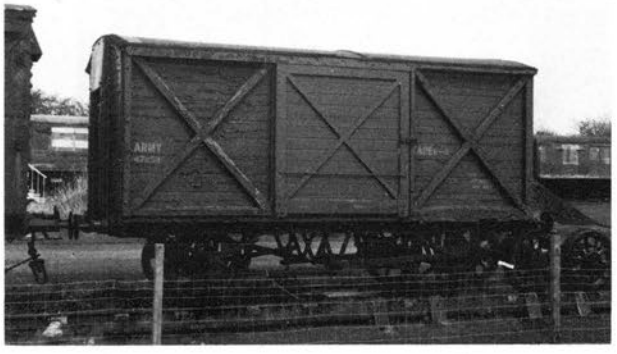
SR diagram	1410 etc (see text)		
Length over headstocks	18ft. 0in.	Length over buffers	21ft. 0in.
Wheelbase	10ft. 6in.	Width	7ft 9½in.
Rated capacity	10 tons		



The characteristic pattern of LSWR closed van, with its diagonal bracing struts in 'X' form. *Gerry Bixley*



Above left: The low-roof covered van at Cranmore, No. 47754, is painted an un-LSWR light grey. *Above right:* The high-roof van also at the East Somerset Railway, No. 9128, is in indeterminate olive green – both taken on 16th September 1984. *Below left:* The low-roof van at Quainton Road, No. 47253, retains its military olive-drab – 28th April 1985. *Below right:* The two covered vans at the Bluebell Railway are both in LSWR brown, and show clearly the difference in roof height – Horsted Keynes, 25th August 1985. *All – P. Cooper*



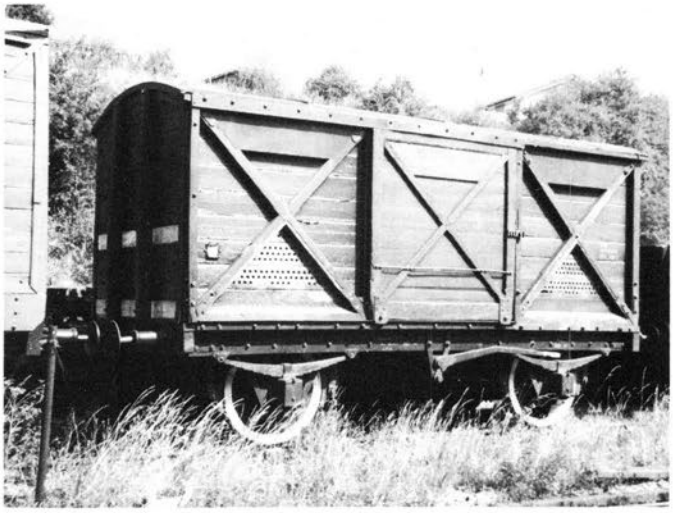
Ventilated vans

In addition to the ordinary covered goods wagons, which the LSWR built in large numbers for general purposes, a number of very similar vehicles were built for specialist traffic of certain types. These vans included vehicles that were ventilated, refrigerated or insulated, and were used to carry such cargoes as fruit, meat, fish and bananas. Because of the perishable nature of such cargoes, many of these specialist vans were passenger rated and vacuum braked. As with the ordinary box vans, the earlier ones had single sliding doors, while some of the later ones had hinged doors; also, several of the later types had longer wheel bases, doubtless to give better riding at high speeds.

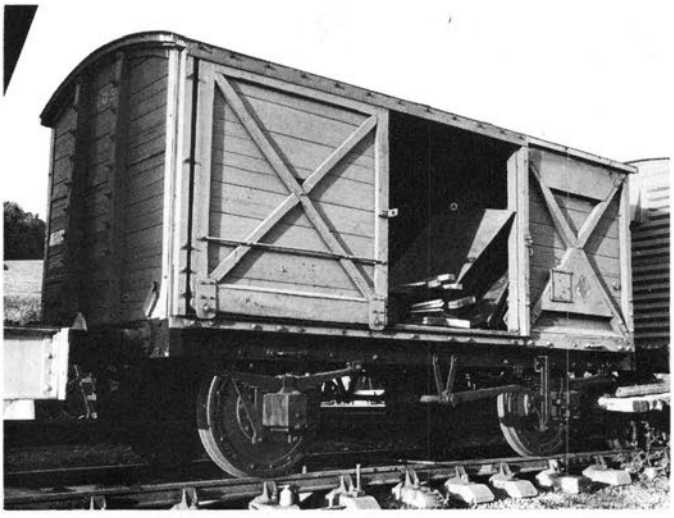
Two ventilated vans have been preserved, and both are diagram 1401 vehicles. Such vans have Mansell wheels (in which a metal rim surrounds a wooden wheel) and covered vents on the sides, but not at the ends. They have wooden underframes, long coach-type springs, and the longer wheelbase of 11ft.

Van No. AD47266 came from MOD Bicester in 1981 and is now at the Bitton Railway, where it is being restored. It is owned by the Bitton Signal Box Group. This van has five side vents, including one in the sliding door, though the covers are missing from the lower vents.

Van No. RNAD303 came from RNAD Gosport in 1984 and is now at Washford, on the West Somerset Railway. It is owned by the Somerset and Dorset Railway Trust. It has only four vents on each side, lacking any in the sliding doors.



The ventilated van No. 47266 at Bitton was painted green when photographed in 1983. *J.R. Fairman*



Its new owners were already putting RNAS 303, the ventilated van on the West Somerset Railway, to good use after purchase late in 1984.
Somerset & Dorset Railway Museum Trust

Ventilated vans

SR diagram	1401
Length over headstocks	18ft. 0in.
Wheelbase	11ft 0in.
Rated capacity	8 tons
Length over buffers	21ft. 5in.
Width	7ft. 9½in.

Gunpowder vans

Gunpowder was a specialist cargo whose transport required specialist vehicles; the nature of the material meant that these vans had steel shells (for greater strength on any impact), but were lined with timber, with all interior fittings of non-ferrous materials (to eliminate risk of sparks).

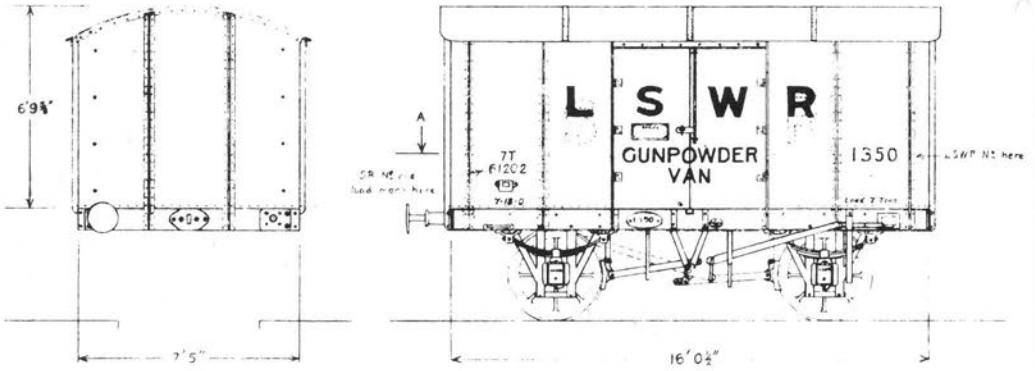
The LSWR built only twelve gunpowder vans, between 1904 and 1912, to a design very similar to the GWR's 'Iron Mink' pattern. They were classified as diagram 1701 by the Southern Railway, and had a capacity of 7 tons.

Van No. 1401 was built by G & R Turner in 1912 and became SR No. 61206. It was renumbered in 1954 to internal user No. 080407 as an Operating Department stores van grounded at Woking. It was purchased by the Kent & East Sussex Railway in 1979, arriving there in July 1979. It is intended to restore it as a complete vehicle, and wheel sets and running gear are being sought; it is then planned to restore it to LSWR livery.

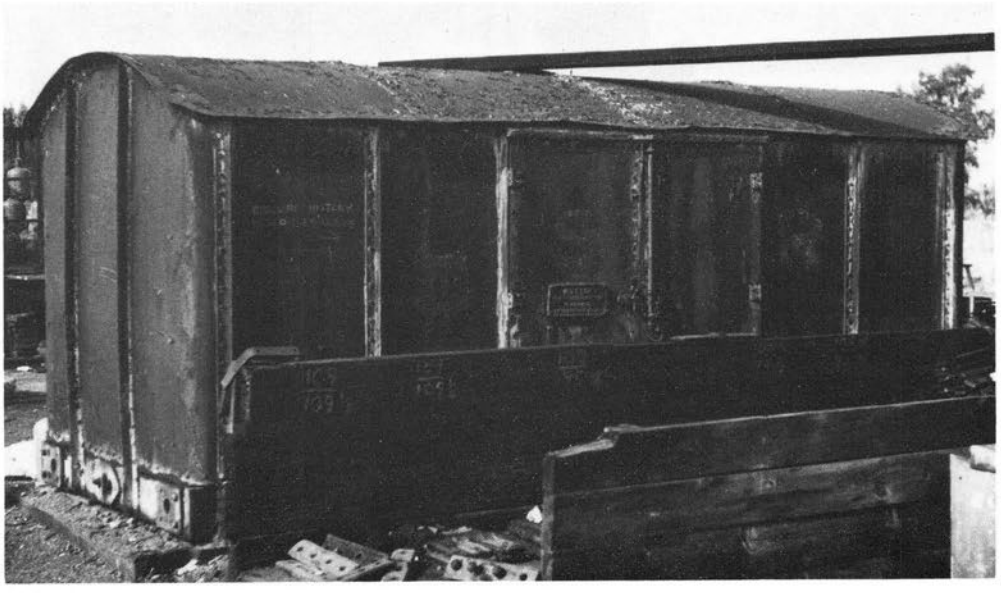
Van No. 1904 was built in 1912 and was renumbered 61209 by the Southern Railway. It was withdrawn in March 1956, transferred to departmental service as DS61209, and allocated to the Scottish Region. It was the last survivor of these gunpowder vans in service, and when withdrawn it was preserved as part of the National Collection. It is now at the National Railway Museum at York, where it is stored in the reserve collection, and it has not yet been restored.

Gunpowder vans

SR diagram	1701		
Length over headstocks	16ft. 0in.	Length over buffers	19ft. 0in.
Wheelbase	9ft. 0in.	Width	7ft. 5in.
Rated capacity	7 tons		



The drawing of an LSWR gunpowder van is largely based on measurements made of the vehicle grounded for many years at Woking, and now at the Kent and East Sussex Railway. *G.R. Weddell*



Gunpowder van No. 1401 spent some years at Woking as a grounded body, No. 080407, before going to the Kent and East Sussex Railway; photographed at Woking, 8th October 1978. *R.A. Silsbury*

Well wagon

The purpose of this type of vehicle was to carry large and awkward pieces of machinery around the railway system. The LSWR's need for such vehicles was very limited, and they only built twenty, to four different patterns, over the years.

The survivor is an example of the last LSWR pattern of well wagon, which the Southern classified as diagram 1676. Three wagons were built at Eastleigh to this pattern, in 1921; their nominal capacity was 20 tons. The surviving wagon was numbered 11813 by the LSWR, and renumbered 61024 by the Southern Railway.

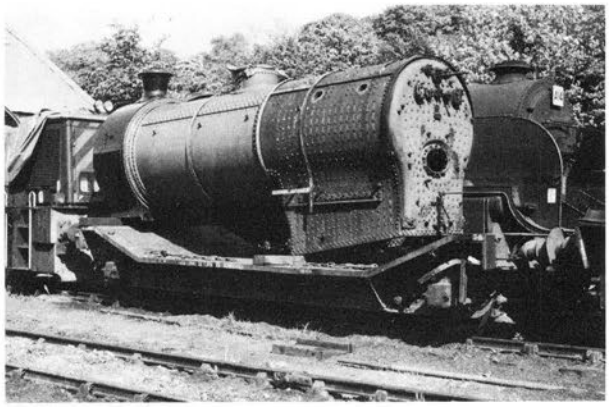
No. 61024 remained in normal service until March 1956, when it was transferred to departmental use and renumbered DS61024. It was then based at New Cross Gate and used mainly around Kent to convey large items of machinery between BR Southern Region depots. It was later based at Tonbridge for use over the Tunbridge Wells-Hastings line, but was withdrawn in 1974.

It was then purchased by the Hexham Rolling Stock Group and moved to the North York Moors Railway in 1975. On the NYMR the well wagon is much used, its low floor making it valuable for carrying various plant and machinery.

Well wagon

SR diagram	1676		
Length over headstocks	26ft. 6in.	Length over buffers	29ft. 6¾in.
Wheelbase	21ft. 0in.	Width	8ft. 6in.
Rated capacity	20 tons		

The well wagon No. DS61024 in use carrying the boiler of the preserved NER 'P3' class locomotive on the North York Moors Railway. *Nick Carter*



Road vehicle truck No. DS60562 in Newport (IoW) yard in 1961. This vehicle is now at the NRM, York. *R.A. Silsbury*

Road vehicle truck

The original purpose of trucks like this was, as the name indicates, to carry road vehicles; given the poor quality of early roads, the need for such vehicles can well be appreciated. Later, this sort of vehicle was used to carry things like containers and small items of machinery, and their modern descendants include the various car transporting trucks.

The one survivor was built as LSWR No. 5830 in 1898 and renumbered 60020 by the Southern Railway, who classified it under diagram 1641. It was then moved to the Isle of Wight in September 1927, and renumbered 60562. It was transferred to departmental stock as No. DS60562 in July 1960 and was the last LSWR road vehicle truck to remain in service, being withdrawn in December 1966.

It was returned to the mainland in May 1967 and stored at Fratton, being moved to Preston Park in November 1967. It is now preserved in the National Collection and was moved to York in 1978; it has not yet been restored, and is currently in the reserve collection.

Road vehicle truck

SR diagram	1641		
Length over headstocks	16ft. 0in.	Length over buffers	19ft. 0in.
Wheelbase	9ft. 0in.	Width	8ft. 0in.
Rated capacity	10 tons		

Open wagons

These were the most basic form of railway vehicle and they were also, on the LSWR as on most railways, by far the most numerous. They accounted for 60% of the LSWR's goods stock at the time of the Grouping.

But the number of preserved LSWR open wagons does not reflect this vast preponderance; what is more, there is not a single one to which we can put a complete history. All the preserved examples have come to us via service with the Army Department or the Port of Bristol Authority, and in some cases it is not really certain that these are LSWR wagons.

No. AD46087 is a five-plank wagon formerly at MoD Bicester. It is now at the Bitton Railway, and is owned by the 813 Group.

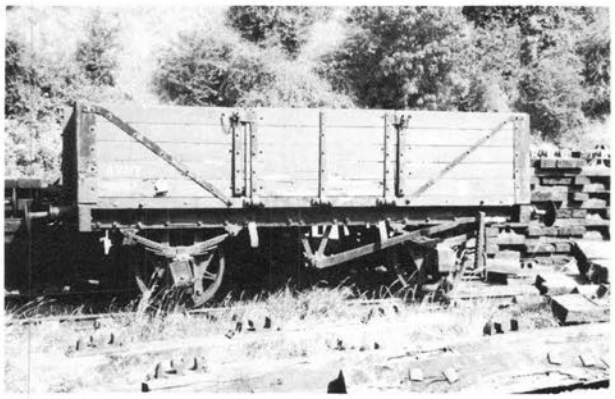
No. AD46102 is a five-plank wagon which was at MoD Bicester until 1977. It was then bought by a member of the Mid-Hants RPS, and taken to Alresford. It is still there, but is in very poor condition.

An unnumbered five-plank wagon at the Telford Horsehay Museum Trust was bought from the MoD in 1984.

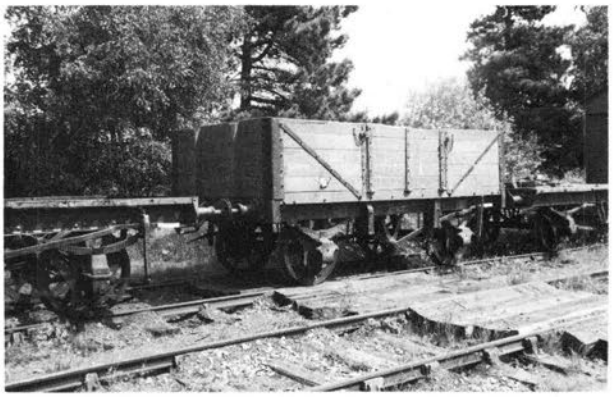
Nos. PBA59355 and PBA60001 are five-plank wagons formerly owned by the Port of Bristol Authority. They are now at the Swanage Railway and are owned by the Southern Steam Trust. It has now been ascertained that they are not, in fact, LSWR wagons, despite some previous claims.

No. PBA59342 is an eight-plank wagon with the characteristic 3-part side door used by the LSWR on such wagons, and perpetuated by the Southern (but the top two parts of the door are missing). All the remarks on the previous two wagons apply here also; this is almost certainly an SR wagon.

Similarly, the wagon SR No. 31475 preserved at the Bristol Industrial Museum, and alleged to be of LSWR origin, is very doubtful on this count. In these last four cases, LSWR origin is apparently claimed mainly because each wagon has at least one LSWR axle-box cover, but as this is one of the more easily exchangeable parts of such a wagon, these covers may not prove a great deal.



The former Army open wagon No. 46087, painted green, at Bitton in 1983. *J.R. Fairman*



The unnumbered LSWR wagon at the Telford Horsehay Museum, painted blue-grey, in June 1984. *J.R. Fairman*

Still serving. . . . .

The Army Department and the Admiralty bought a large number of wagons including some of LSWR origin. Most of these were usually kept at stores depots around the country, and were not accessible to the ordinary interested observer. A number of them have since been purchased for preservation, but a few remain in military service, though exact details are rarely available.

A 1980 list shows the following closed vans:-

Bicester – AD47136, 47254, 47263, 47265, 47266, 47273
Shoeburyness – AD47360, 47377
Kineton (?) – AD47539
Longtown – AD40117 (flat wagon, ex-Van AD47512)

also open wagons AD46087 (now at Bitton) and AD46102 (which went to the Mid-Hants Railway), and two units converted from carriage stock, AD82707 and 87000.

Of the vans at Bicester, AD47266 has since gone to Bitton, and some of the others are believed to have moved, or been cut up. But AD47265 was still there in 1984; this is a Banana Van to SR diagram 1463, it has double hinged doors, sliding panels in the ends, long (coach-type) springs, and the longer (11ft.) wheelbase. It has also apparently received rather rough-and-ready replacement to some of its original panelling.

A small number of ex LSWR flat wagons and Borails are believed still to be in departmental service with British Rail. These include Borails Nos. ADS57837/8/41/42 and flat wagons 081483 and 083142.

Former banana van Army No. 47265, painted grey, at MoD Bicester in 1984. *J.R. Fairman*

Appendix I

Allocations since 1932

It is only from about 1932 that it is possible to offer reasonably complete and accurate allocation histories for the preserved locomotives. For this, as for so many such things, we must chiefly thank the RCTS's Railway Observer. The first depot given is that for January 1932.

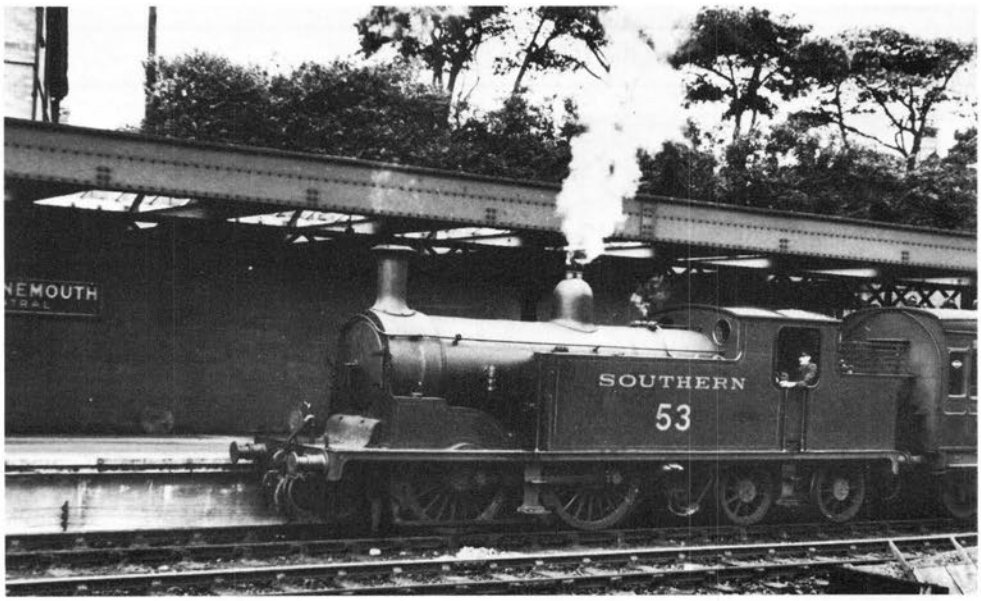
No.	Allocation
298	Wadebridge, (Wdn 12/62)
314	Wadebridge, (Wdn 12/62)
488	East Kent Rly, Exmouth Junction (11/46), (Wdn 7/61)
209	Ryde, (Wdn 3/67)
563	Guildford, Eastleigh (early 1933), Guildford (3/35), Salisbury (10/35), Eastleigh (2/38), Basingstoke (12/39), (Wdn 8/45)
96	Southampton, Eastleigh (1/48), Ashford (8/49), Eastleigh (9/50), (Wdn 10/63)
102	Southampton, Eastleigh (1/48), Plymouth (4/49), Eastleigh (7/58), Bournemouth (12/58), Eastleigh (5/60), (Wdn 9/63)
245	Nine Elms, Bournemouth (10/37), Exmouth Junction (during war), Barnstaple (5/52), Nine Elms (10/52), Redhill (12/53), Nine Elms (1/54), (Wdn 11/62)
53	Guildford, Bournemouth (3/36), Fratton (6/38), Bournemouth (8/38), Eastleigh (mid 1940), Fratton (12/50), Faversham (3/53), Brighton (5/53), Eastleigh (6/59), Brighton (3/60), Three Bridges (4/61), Eastleigh (6/62), Tunbridge Wells West (1/63), Three Bridges (9/63), Bournemouth (1/64), (Wdn 5/64)
120	Eastleigh, Fratton (7/37), Eastleigh (during war), Fratton (9/50), Dorchester (3/51), Guildford (10/52), Dorchester (12/52), Eastleigh (9/53), Exmouth Junction (3/61), (Wdn 7/63)
499	Nine Elms, Feltham (early 1940), G.W.R. loan (11/41), Feltham (5/43), (Wdn 1/64)
506	Feltham, (Wdn 1/64)

Appendix II

Whereabouts since withdrawal

After being withdrawn the locomotives were not, of course, allocated to any shed, so their subsequent history is best summarised by recording their movements since withdrawal.

No.	Location
298/30587	Nine Elms (12/62), Fratton (early 1963), Stratford (9/64), Preston Park (2/68), Buckfastleigh (4/78)
314/30585	Nine Elms (12/62), Bishops Stortford (3/64), Quainton Road (5/69)
488/30583	Eastleigh (7/61), Bluebell Railway (7/61)
209/W24	Ryde (5/67), Newport (8/69), Haven Street (1/71)
563	Eastleigh (8/45), Kimbridge Junc. (1/48), Eastleigh (approx 4/48), Farnham (7/48), Salisbury (? during 1950s), Tweedmouth (4/58), Eastleigh (8/59), Clapham (1/61), York (4/75)
(300)96	Eastleigh (10/63), Southampton (2/64), Bluebell Rly (12/72)
(30)102	Eastleigh (9/63), Skegness (10/64), Bressingham (3/71)
(30)245	Eastleigh (11/62), Fratton (early 1963), Stratford (9/64), Preston Park (2/68), York (11/77)
(300)53	Eastleigh (5/64), Nine Elms (9/64), Eastleigh (12/64), Preston Park (2/67), Bellows Falls, Vt (4/67), Scranton, Pa (1984)
(30)120	Eastleigh (7/63), Fratton (1/64), Stratford (9/64), Preston Park (2/68), Tyseley (9/70), York (10/77), Mid Hants Rly (9/81)
(30)499	Feltham (1/64), Barry (6/64), Mid Hants Rly (11/83)
(30)506	Feltham (1/64), Barry (10/64), Mid Hants Rly (4/76)



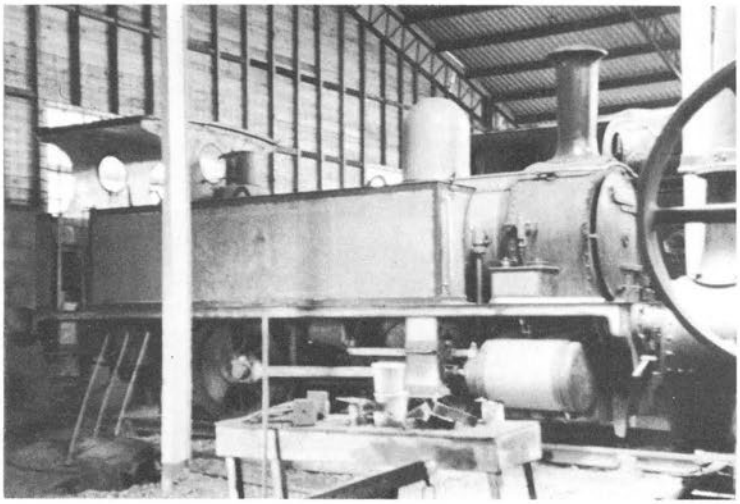
A Bournemouth engine – M7 class No. 53 was there during the late 1930s, and again in 1964. Here is the engine at Bournemouth Central station on 19th July 1937.
H.C. Casserley

Appendix III

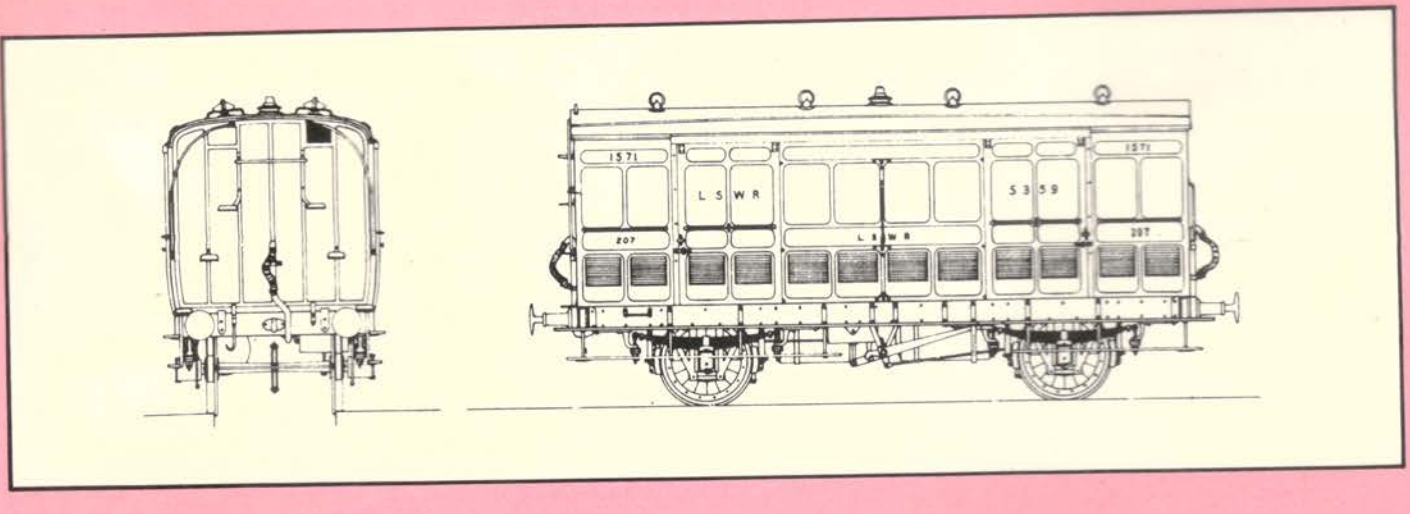
Locations of preserved LSWR rolling stock

Not all these items are on view or normally accessible by the public. Original LSWR numbers are shown where they are known – other numbers are bracketted.

Location	Locomotives	Carriages	Wagons
National Railway Museum	T3 class No. 563 M7 class No. 245 Electric (No. 75S)	Tri-compo brake No. 847	Road van No. 99 Road veh. truck No. 5830 Gunpowder van No. 1904
Bluebell Railway	0415 class No. 488 B4 class No. 96	Third No. 1228 Third brake No. 1520 Third No. 494 Luggage van No. 5498	Road van No. 5706 Covered van No. 8112
Mid-Hants	T9 class No. 120 S15 class No. 499 S15 class No. 506	Dining saloon No. 70 Dining saloon No. 76 Third brake No. 1353 Dining saloon No. 4151	Open wagon (No. AD46102)
Quainton Rd	0298 class No. 314	Luggage van No. 5025	Covered van (No. AD47253)
Isle of Wight	02 class No. 209		Road van No. 11104
Dart Valley	0298 class No. 298		
Bressingham	B4 class No. 102		
Kent and East Sussex		Composite No. 959 Invalid saloon No. 11	Covered van No. 2780 Gunpowder van No. 1401
West Somerset		Third brake (No. 3204)	Ventilated van (RNAD303)
Knebworth House		Third brake No. 1282	
East Somerset			Road van No. 12424 Covered van (No. AD47754) Covered van No. 9128 Flat wagon No. 6095
Bitton Railway			Ventilated van (AD47266) Open wagon (No. AD46087)
Telford			Open wagon (No. ?)
and M7 class No. 53 is in the U.S.A.			



Still with BR smokebox numberplate, but with cutaway cab (hardly an authentic combination), *Granville* at Bressingham on 1st August 1971. *J.R. Fairman*



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